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## LEADING ARTICLES

### A DEFINITION OF LIFE.

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SINCLAIR, ILL.

(WRITTEN FOR THE MEDICAL FORTNIGHTLY.)

A CONSIDERABLE search through appropriate literature, available in the libraries, including the best of dictionaries and encyclopedias, and especially works on biology, physiology and histology, has failed to produce even an approximately correct definition of the word life. They all fail utterly to tell what life is. About the only thing they pretend to do, is to tell of some phenomena of life; and when the reading is finished, you are as much as ever in the dark as to what life really is, where its seat is, whence it comes and whither it goes. They all talk about the functions of the various organs that depend upon the life for their activity, and seem to think that that is sufficient. But functional activity is only one of the ways of recognizing the presence of life, and does not in any way throw much light on the nature of life, or assist in discovering the secret of what life is.

Of course many very able men have undertaken to tell what they thought life was, but none of these efforts have been succesful. Sir Henry Drummond, in his "Natural Law in the Spiritual World," says, "Mr. Herbert Spencer's definition of life, it is well known, has been subject to serious criticism . . . It cannot be affirmed that it has taken its place in science as the final solution of the fundamental problem of biology. No definition of life that has yet appeared, can be said to be even approximately correct." Let us see: Mr. Spencer defines life as "The definite combination of heterogenous changes, both simultaneous and successive in correspondence with external co-existences and sequences."

This definition is a high sounding display of words that, in plainer language means, "Organized matter in correspondence with its environment." Well, the fallen leaves in December are organic matter, more or less in correspondence with their environment, in that they absorb moisture in humid weather and give up on dryer days; they reflect, more or less, the sunlight, and are moved about by the breeze; but their life went out when the first severe frost changed their emerald green to the characteristic hues of the autumn. Mr. Herbert Spencer's definition of life does not define life. It does not tell us what it is.

Mr. Drummond also says: "The definition of death which science has given us is, "A falling out of correspondence with environment." Indeed? Suppose a lad in the audience at a church service goes to sleep; he certainly has fallen out of correspondence with his environment, but it is safe to say, he is fuller of life than the prosy dominie that lulled him to slumber. The definition of a "falling out of correspondence with environment" does not tell us what death really is. It won't do. Drummond further remarks: "To say that life is a correspondence, is only to express the partial truth. There is something behind." Yes, indeed, there is certainly something behind; something lacking; something unrecognized; some mysterious force not understood. What is it? What is the invisible something that has eluded the critical eye of the world's most acute scientific observers; that has defied the microscopist, the chemist, the biologist and all scientific searchers?

What is this thing that puzzles the wise men and baffles every earnest investigator? Can we never know? It is not possible for the human mind to unravel this mystery? Like every other great truth, it will probably

be found to be a very simple and beautiful thing when the light begins to shine so that our understanding may take hold of the idea, and know just what it is. Let us examine the problem briefly and closely. Come; let us listen to the words of Mr. Huxley, an expert scientist, as he watches through the lenses of his microscope the development, out of a speck of protoplasm, of one of the more common of animals. He says, "Strange possibilities lie dormant in that semi-fluid globule. Let a moderate supply of warmth reach its watery cradle and the plastic matter undergoes changes so rapid and yet so steady and purpose-like in their succession that one can only compare them to those operated by a skilled modeler upon a formless lump of clay, as with an invisible trowel the mass is divided and subdivided into smaller and smaller portions, until it is reduced to an aggregation of granules not too large to build, withal, the finest fabrics of the most nascent organism. And, then, as if a delicate finger traced out the line to be occupied by the spinal column, and moulded the contour of the body; pinching up the head at one end, the tail at the other, and fashioning flank and limb into due proportions in so artistic a way, that after watching the process hour by hour, one is almost involuntarily possessed by the notion that some more subtile aid to vision than an achromatic (microscope) would show the hidden artist, with his plan before him, striving with skilled manipulation to complete his work."

A wonderful thing is this which Mr. Huxley has described. It is quite different from the study of assimilation, waste and growth, where scientists have labored much in the search for the secret of life. He saw exquisitely artistic work; but saw not the artist. He saw a performnace, not the performer. But what did he see? He saw a plan being worked out; he saw a design carried towards its legitimate consummation; he saw a means working towards an end; in a word, he saw an intelligent work; more than that, he saw a creation. He saw a thoughtful creation of such intricate delicacy and marvelous perfection, that we are forced to say it was an intelligence far above all human comprehension. Every step of that creative process was so absolutely perfect, so free from error or hesitancy, so harmonious, so supremely skillful, so devoid of the superfluous, and so admirable, that we are compelled to acknowledge it was an intelligence Divine. The human mind cannot create a living being; it cannot even fully understand all of the parts that have been created. Only the Divine mind can prepare a protoplasmic mass and convert it, with unerring perfection, into a living being. This is of omnipotence and omniscience, and compels us to admit that it is Jehovah's work. Therefore, we are justified in defining life to be, Organic matter under control of an inherited resident Divine intelligence.

Life is a portion of the Divine mind, called spirit. This is a scientific definition of life, arrived at by inductive reasoning. It is the truth, and therefore it must ultimately be accepted. Now let us look at the matter from another point of view, and see if it can be confirmed by deductive reasoning. We will approach the highest authoritative sources of intuitional knowledge, and see if they will testify to the correctness of our definition. Let us notice if they will declare the great Creator to be the only Creator; if they will assert the creative force to be the will or word (logos) of omnipotent and omniscient Jehovah, Creator of all things, and father of all life. The word "father" means life-giver. We will understand, also, that Eve was made from the rib of Adam so that she would receive her life by transmission, as do all others, and that she might know that she as well as her posterity came from father Adam, who got his life directly from the Almighty Creator. Listen to the holy witnesses: "And God made the beasts of the earth after his kind—and saw that it was good."—Gen. 1:25. "And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life and man became a living soul."—Gen. 2:7. "The spirit of God hath made me, and the breath of the Almighty hath given me life."—Job 33:4. (The breath is to continue the life.) "Thine hands (power) have made me, and fashioned me together round about. Thou hast made me as the clay."—Job 10:8, 9. "It is he (God) that hath made us, and not we ourselves."—Ps. 100:3. "He that made me in the womb."—Job 31:15. "For with thee is the fountain of life."—Ps. 36:9. "He giveth to all life, and breath and all things."—Acts 17:35. "For the word of God is quick and powerful, and sharper than any two-edged sword, piercing even to the dividing asunder of soul (being) and spirit."—Heb. 4:12. "Through faith we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which do appear."—Heb. 11:3. "All things were made by him, and without him was not anything made, that was made."—John 3:3 (A. V.) The Greek (Vatican) says: "In a beginning was the logos and the logos was with the God, and a God was the logos. In it was life."—John 1: 1, 2, 3, 4.

Unmistakably these sacred writers have affirmed that Jehovah's word, his mental

power, has ever been the creative force; he wills and it is speedily done. This great fact of his creative will power, should not at all seem difficult for physicians of this day to believe, for every student of psychological science is quite familiar with the wonderful facts of thought transference (telepathy) telekinesis clairvoyance, foreknowledge, projection of phantasm and like phenomena of the subjective mind frequently exhibited by so-called "psychics."

Hudson in his Scientific Demonstration of a Future Life, says: "The subjective mind is a spark of the Divine intelligence." This brought him to the verge of a definition of life, but he failed to see the next step would have brought him to the formulation of a definition of life. Moreover, he calls the subjective mind the "soul" when he should have called it the "spirit." The soul is the entire being and not a separate intelligence, as is commonly supposed. There is absolutely no proof anywhere, that the soul is a separate intelligence and survives death. "The dead know not anything,"—Eccl. 9:5. All the science, philosophy and theology in the world cannot disprove this declaration by Solomon. It is the truth. Lazarus, who had been dead four days, could say nothing of his experience. That the spirit, or subjective mind, is a portion of the Divine mind, is shown by the fact that all of its properties are potentially perfect, and far beyond the comprehension of the human brain intelligence. It presides over the functions of the body and regulates the heart action and all other vital processes perfectly even during the most profound slumber when the human brain, objective mind is in oblivion. The human brain creates thought, but the spirit or subjective mind created the brain. The phenomena of "maternal impressions" show the influence of a mental force upon cell development; how the mother's mind, through a powerful impression, can disturb or modify the delicate work of the creative mind. When human beings can do such wonders in the display of mental powers, as are exhibited by the occasional "psychic" or medium, it should be very easy for us to believe that the omnipotent mind has only to command and it is done. Life is resident; else there could be no such thing as an infertile fresh egg. Life is always by transmission or inheritance, consequently all efforts to produce spontaneous generation have failed and always will fail, for an intelligence or life, can only come from another life or intelligence. Organic matter, assisted by an imperfect human mind, cannot create an intelligence potentially perfect. The human life is always from the natural father—or "life giver." Only one exception to this law has ever occurred, and that was with the Virgin Mary, who by the influence of the Holy Spirit became the mother of Jesus. Christendom has accepted this fact, though a number of impious and skeptical writers have disputed it. It is too much for their limited comprehension to believe a pure woman could be the mother of the Holy Child through the influence of the Divine spirit instead of a natural father. Let me tell them of a case where only an accidental prejudice prevented the world from seeing a child artificially born without the influnce of a natural mother. The eminent surgeon, Dr. Nicholas Senn, in his book on Tumors, writes of a boy in England aged fourteen years, who was sick of an unrecognized ailment, thought to be caused by an abdominal tumor. An operation was refused and the young man died. At the autopsy a most wonderful thing was discovered. Within the abdominal cavity was found a perfect male child of full development. The child would certainly have lived had it been brought to the air soon enough. (The specimen is now in the British Museum.) This case throws some light on the origin of Eve, who came into existence without a natural mother. "Eve was called 'woman' because she was taken out of man." —Gen. 2:26. The mystery of the transmission of traits may be partially illuminated by considering a fine vocal phonographic record, which is copied by an impression from the "master record," which is from the great artist. Let the great singer represent Jehovah; the "master record" represent Adam and the subsequent "copy records" represent Adam's posterity. It is true that the indentations upon the phonographic record are caused by the vibrations of the air upon the diaphragm and needle; but the character of those vibrations is directed by the intelligence behind. Just so is it with the living cell; its characteristics depend upon the intelligence that has stamped upon it the will of the supreme intelligence, minus the perfection that has been lost by the sinful heredity. This living cell, with its hereditary characteristics, is passed down from father to offspring, and in lower animals when a species goes out of existence, it can never be restored. Evolution is absolutely helpless towards bringing back those animals that are extinct in kind.

In conclusion, let me restate the definition of life to be: Organic matter under the control of an inherited resident Divine intelligence. God calls it the spirit. Death is the separation of the spirit from the organized cells. "The body without the spirit is dead."—Jas. 2:26. "The spirit shall return to God, who gave it."—Eccl. 12:7. It

will always be invisible, even as all thought is invisible. "Great and marvelous are thy works, Lord, God Almighty."—Rev. 15:3.

## DERMATOLOGICAL AXIOMS.

NASH E. ARONSTAM, M. D.

DETROIT, MICH.

1. Calomel, sodium salicylate and small doses of the extract of tr. belladonna will benefit the most intractable cases of urticaria, even after all other remedies, both internal and external, have failed to effect a cure.

2. In acute erythematous eczema of the extremities, where the subjective symptoms are very pronounced and annoying, the application of a dilute solution of the adrenal principle to the lesions will produce a rapid blanching of the parts and ameliorate the intolerable itching. After the acute features of this dermatosis have subsided an ordinary Lassar's paste with or without ichthyol, wherein a small amount of adrenalin solution has been incorporated, will hasten the restitution of the involved areas to their normal.

3. Baker's yeast is occasionally of signal service in furuncles, administered in one-half dram doses three hours after meals, just at the time when the food has undergone chylification in the small intestines. This is especially indicated when indican is detected in the urine of patients afflicted with repeated outbreaks of this affection.

4. The little, chamois-yellow papules and macules on the lower lids at the canthi and sometimes on the dorsal surfaces of the hands and forearms are xanthematous in nature, and indicate either renal lesions, or affections of the pancreas and liver. They have also been met in patients suffering from glycosuria. An examination of the urine of all such patients is therefore imperative.

5. Pot. iodide may at times produce an angioneurotic edema of the eyes and face. This furnishes a serious drawback for its exhibition in syphilis. It can, however, be avoided by combining it with tr. belladonna or hyoscyamus; the latter drugs will act as correctives of this untoward action of the iodide, and thus obviate the appearance of these lesions.

6. Remember that pickles, porridge, pork, pastry and potatoes must be excluded from the dietary of patients suffering from cutaneous diseases. This dictum could be readily formulated by stating that all articles of diet beginning with a P should be tabooed from the table.

7. Induced hyperemia in indolent and indurated acne is of paramount usefulness in combating this sluggish affection. The Bier's apparatus must, however, be kept on the individual lesions for at least five to ten minutes before it is withdrawn; shorter periods avail but little in hastening the process.

8. Fatty applications are as a rule not well borne by the scalp or any hairy part of the body. When such a selection, however, has been made, the hair must be clipped short, or else, especially in girls, where the cutting of the hair is absolutely refused we must have recourse to lotions, preferably aqueous or alcoholic, which invariably act more favorably than unctuous preparations.

9. Never use aqueous lotions in acute vesicular or erythematous eczema, for water will nearly always irritate the lesions and intensify the pathologic process. Protection is the indication, and pastes or powders are very useful in such cases.

10. Pityriasis rosea resembles intimately ringworm of the body. The former, however, presents larger crescentric and circinate lesions than the latter. The macules look yellow, do not exhibit an inflammatory zone nor vesiculation at its margin; they are but slightly scaly, and as a rule invade the trunk in preference. They are non-parasitic and disappear under indifferent medication within a fortnight.

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Chronic Ulcers and Syphilitic Diseases (Yellow Ointment).—

℞ Hydrargyri chloridi miti..... gr. 50
Acidi tannici.....
Lycopodi .....aa gr. 12
Ungt (zinci oxidi) U. S. P.... ℥2

M. et ft. ungt. Sig. Apply as directed.—Med. Rev. of Revs.

Chronic Cystitis.—Druitt suggests the following for chronic cystitis:

℞ Foliorum buchu..... 3ij
Foliorum uvae ursi..... 3ij
Macerate for two hours, strain and add:
Liquor potassae..... 3i
Tincturae cinnamomi..... 3iij
Tincturae hyoscyami..... 3iij

M. f. mist. Two tablespoonfuls three times a day.

Local Treatment of Mumps.—Ragozzi recommends in Nouveaux Remedes the use of the following:

℞ Guaiacol ..... part j
Vaselin .....
Lanolin.....aa part x

M. Ft. ungt. To be rubbed into the parts affected night and morning, and then covered with gutta-percha, over which is placed a bandage with some amount of pressure.—Practitioner.

## SELECTED ARTICLE

### THE OPSONIC TREATMENT OF BACTERIAL DISEASES; ITS HISTORY, PRINCIPLES AND TECHNIQUE.*

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ST. LOUIS.

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METCHNIKOFF came forward some years ago with a theory of phagocytosis as a basis for immunity. His view was that the successful resistance of an animal against bacteria depended upon a certain physiologic variety of the white blood corpuscles known as the phagocytes.

Ehrlich's ingenious "side-chain" theory scarcely need be mentioned, so familiar and complicated is it to most of us. This theory accredited the cells of the body with the property of producing substances which had an antagonistic action to bacteria or their toxins. A true antitoxin combines with and neutralizes the bacterial toxin. The antitoxins are elaborated by the cells in excessive quantities and cast into the blood. The serum of an immune blood was the essential factor of immunity, therefore, according to Ehrlich's views.

These two theories, that of Metchnikoff and that of Ehrlich, have each had numerous supporters, and those of the latter have been in preponderance during recent years.

Koch made a preparation from the bacilli of tuberculosis, which he and others have used to diagnose and to treat tuberculosis. He called this substance tuberculin. Koch made the claim for tuberculin that it was curative for tuberculosis. The results of its use have been inconsistent. Koch has indefatigably continued to experiment with tuberculin from 1890—when the first tuberculin was brought out—up to the present time.

Grubber and Durham found that when a small quantity of the serum of an animal highly immunized against a particular motile organism (cholera vibrio, typhoid bacillus, etc ) was added to an emulsion of the organisms, the latter lost their motility, and became agglutinated into clumps. It is believed that this is of more or less importance in the resistance of the body against the invasion of bacteria.

Professor Sir A. E. Wright conceived the idea that by carefully measuring the agglutinating power of a serum for a specific bacterium, the relative resistance of the animal whose serum was to be tested could be obtained.

The technique of these tests is extremely tedious and rather inaccurate, and while hunting around for other methods of ascertaining the resistance of an organism against a disease, he tested the value of phagocytosis for this purpose. This work led to the discovery of opsonins, to the ascertaining of the effect of bacterial toxins on the resistance of an animal, to a more proper interpretation of Metchnikoff's and Ehrlich's theories, to an explanation of the effects of Koch's tuberculin in tuberculosis, and to an explanation of the effects of vaccine.

Blood serum contains substances which, when brought into contact with bacteria, unite with them in such a manner as to make them susceptible to ingestion by the white corpuscles of the blood.

When leucocytes and bacteria are mixed in the absence of serum, a relatively small number of bacteria are ingested by the leucocytes. The substances of the serum which affect the bacteria in such a way that the white corpuscles can envelop them, are called by Wright "opsonins." This term comes from the Greek word opsono, which means "I cook for table," "I prepare pabulum for." That the opsonins unite with the bacteria and not with the leucocytes is shown by the fact that corpuscles washed free of serum are incapable of enveloping bacteria; but if the bacteria have previously been kept at body temperature with serum for a half an hour, and then washed they will be ingested by the leucocytes. Opsonins of normal blood will be destroyed by heat at 60 degrees C. for ten minutes. Opsonins of an immunized blood will not be entirely destroyed by heat at 60 C. for ten minutes, as shown by Wright and Reid, unless the serum containing the opsonins is diluted. Other investigators had observed this difference of the bacteria affecting substances of normal serum and serum from a patient who is the victim of an invading micro-organism, and they came to the conclusion that the immunizing bodies and Wright's opsonins were different substances. But Wright and Reid have arrived at the conclusion that these substances are opsonins in both cases.

The specificity* of these protective agents has been proved, in some instances at least. By specificity of opsonins is meant that the substance of the serum which so affects tubercle bacilli as to make it ingestible by corpuscles, is not identical with the one which perpares staphylococci for the same process. There exists, then, according to this theory a great variety of opsonins—one for the bacillus tuberculosis, one for the staphylococcus,

*Read at the meeting of the St. Louis Medical Science Club, November, 1906. Reprinted from the Medical Review.

*Some recent investigators are of the opinion that opsonins are not specific.

one for the streptococcus, one for the bacillus coli, one for the gonococcus, etc.

The sera of healthy individuals contain equal amounts of opsonins, i.e., a definite number of washed corpuscles of any individual (from whom they come is of no consequence), on being mixed with a definite quantity of serum from a healthy individual, is capable of ingesting the same number of bacteria as when mixed with the same amount of serum from any other healthy individual. But if these corpuscles are mixed with a serum of a person who is the victim of an infection, it may be found that the number of bacteria enveloped by the corpuscles is unlike that in the case of the sera of the normal individuals. It is possible that one test would show an alteration in the opsonic power of the serum in a person the subject of an infection. But to show this, all that is required is repeated observations. The protective substance may be found to be greater amounts than in normal cases, but usually it will be found decreased. The relation of the opsonic power of one serum to another is spoken of as the opsonic index. The opsonic index of any healthy blood then is 1; those of the blood from infected individuals will be 1, less than 1, or more than 1, depending upon the amount of toxin present and the manner of its introduction into the system. It might be said that it depends upon whether the protective power or the bacterial toxins have the upper hand in the struggle raging in the body between them.

The determining, then, of the "opsonic index" of a patient's blood would appear to be significant from a diagnostic standpoint; and such it has proved to be. Whether the opsonic index is low because of the infection, or whether the infection originated because of a low opsonic index, it is impossible to say. In the former instance a low opsonic index would be diagnostic of the existence of an infection and in the latter it would be either diagnostic of the existence of an infection or prognostic that the infection would occur as soon as the proper exposure was effected.

The introduction of bacterial toxins into the body has a double effect on the protective agents of the serum. Following the inoculation of the poison there occurs, first a decrease in the antibacterial power of the blood; this, which is designated by Wright as the "negative phase" is more or less accentuated and prolonged according to the amount of the poison introduced into the system. Secondly, there occurs an increase in the antibacterial power of the serum; this is referred to by Wright as the "positive phase." This phase, much as with the negative phase, is variable in its duration and degree, and depends more or less upon the amount of bacterial toxin introduced into the system.

The same changes in antibacterial power occur in the serum whether the bacterial toxin is introduced into the system from a focus of bacterial infection located in the body, or whether an artificial inoculation of dead bacilli is made. Wright terms a standardized and sterilized suspension of micro-organisms a "vaccine." By the use of the vaccines he raises an abnormally low opsonic index to normal or above.

### TECHNIQUE OF THE WORK.

In order to measure the opsonic index, Professor Wright and his associates have developed a fairly simple, though ingenious, technique. It is necessary to prepare: (1) Washed corpuscles; (2) serum from normal and infected individuals; and (3) bacterial emulsions. For obtaining corpuscles ten or fifteen large drops of blood are drawn from the finger, usually of the man preparing the corpuscles. These are drawn into a small centrifuge tube containing one and a half per cent solution of sodium citrate, which prevents clotting. The finger can be very neatly pricked by a capillary tube which is drawn to a pin point in the flame. The very delicate portion of this is broken off. The jagged end of this causes a very good flow of blood, if a bandage has been properly applied to the finger. This glass lance is sterile, as it is a new one and is prepared in the flame each time one is to be used. After the blood and citrate solution are thoroughly mixed they are centrifugated for a few minutes. When the corpuscles are precipitated the clear liquid is removed and replaced with an .85 per cent sodium chloride solution. The corpuscles are mixed with this solution and again precipitated by centrifugation. The clear solution above the corpuscles is removed, and the washed corpuscles are ready for use. The white cells, being of a lower specific gravity than the red, remain in greatest number in the upper stratum, in which the capillary pipette is carefully introduced, in order to get as many leucocytes as possible. The bacterial emulsion is made by thoroughly shaking small clumps of bacteria in an .85 per cent sodium chloride solution, or by grinding in a mortar, if the bacteria are tubercle bacilli, with normal salt solution.

If the emulsion is allowed to stand for an hour or so, or is centrifugated for a few minutes, any clumps remaining after the thorough shaking will be precipitated.

The blood for the serum is obtained from

the patient in a small tube about an inch long, both ends of which are drawn out to a capillary; one of these is curved to an acute angle. Both ends are broken off so that the capillary of each shall be an inch or so long, and the blood is drawn into the tube by capillary attraction through the curved end. One such tube of blood is obtained from each patient and three or four from as many normal individuals; these are to serve as controls. The straight end is sealed in the flame and the blood is shaken to that end. After clotting, the serum is squeezed out and may be drawn up by the pipette, after the curved end is broken off. It may be necessary to centrifugate the tube for a few minutes, to separate a clear layer of serum from corpuscles. A flat dish containing moist sand is a very handy vessel in which to stick the tubes of corpuscles, bacteria, etc. The first step in the process is to mix equal quantites of corpuscles and bacteria emulsion with the same amount of each one of the serums. This is done by means of small glass tubes which are drawn out to fine capillaries. Corpuscles, bacteria, and serum, are each drawn up to a certain point in the capillary, one after the other, with a small bubble of air between each two. The point to which the tube is filled is arbitrarily chosen, usually half or three-quarters of an inch from the tip. This is marked with a wax pencil. The corpuscles, bacteria, and serum, are then thoroughly mixed by blowing the three on to a clean slide. The mixture is then drawn back into the tube, the tip of which is sealed in the flame. The tube is then put in the incubator for fifteen or twenty minutes, at the end of which time a smear is made. This is made by drawing a small drop of the mixture across the silde by the smooth edge of a second slide held at an angle of from twenty to thirty degrees from the first.

The best manner of holding the spreading slide and the proper amount of pressure to be applied to it can only be learned by experience. The slides are prepared by rubbing with the finest grade of emery paper. The surface thus made causes the blood to spread very readily. The fine lines are scarcely seen by the microscope. If the smear has been well made, the last border of the blood should contain practically all the white cells. This is due to the fact that the leucocytes are larger than the erythrocytes and consqeuently are the last to roll from under the edge of the spreading slide.

From the number of bacteria found in a number of corpuscles mixed with normal serum, and the number found in the same number of corpuscles mixed with the pathological serum, the opsonic index is calculated. Persons are considered normal who are apparently healthy, and whose sera possess practically equal opsonic power. The number of bacteria counted in a number of corpuscles—for example say fifty corpuscles —of healthy blood, is the denominatior of fraction, the numerator of which is the number of bacteria counted in fifty leucocytes of the blood to be tested. This fraction denotes the opsonic index of the tested serum.

VACCINES.

The vaccines are prepared from cultures of bacteria grown on the ordinary culture media used in the bacteriological laboratories. In Professsor Wright's laboratory Koch's new Tuberculin T. R. (T. R. standing for Tuberculin Rueckstand) is used for the preparation of the tuberculosis vaccine. This product of Koch's is made by comminuting tubercle bacilli by the action of machinery; the bacilli are then suspended in dilute glycerin in the proportion of 10 mg. of the dried organisms to one c.c. of the vehicle. The small vials of tuberculin T. R. as prepared by Meister, Lucius and Bruning, of Germany, contain each 10 mg. of tuberculin. It is the custom in Wright's laboratory,in order to insure absolute sterility of this preparation, to heat it in a water bath at 60 C. for an hour. This is done by drawing the glycerin suspension of bacteria in a special form of pipette, which is placed in the water bath. One c.c. of sterile salt solution, which is used to wash out the vial, is treated in the same way. These are added after sterilization to forty-eight c.c. of sterile salt solution to which has been added $\frac{1}{8}$ per cent lysol in a fifty c.c. bottle with a rubber cap. The tuberculin is introduced into the bottle by plunging the fine point of the pipette through the rubber cap. This bottle is kept for stock tuberculosis vaccine. Dilutions of this, so that one c.c. contains about 1-500 of a milligramme of tuberculin, are made in bottles similar to the above. For obtaining a hypodermic full of the tuberculin the needle is introduced through the cap, which is kept covered with pure lysol. This prevents any possibility of a contamination of the vaccine. Staphylococcic vaccine is prepared by growing the bacteria on the ordinary agar culture media. One or two tubes each of staphylococcus pyogenes aureus, albus, and citreus, are grown for from eighteen to twenty-four hours, when the growths are suspended in sterile salt solution. This is done by pouring sterile normal salt solution asceptically into each of the tubes, and by means of a platinum wire rubbing the surface of the agar. When the bacteria are all suspended in the salt solution,

the suspensions are all poured into one sterile test tube. The end of this is heated in the flame and drawn out into a long neck which is sealed in the flame. The tube is then shaken for the purpose of breaking up the clumps of bacteria. After half an hour's shaking, more or less, the sealed tip of the tube is broken off and a few drops of the suspension are shaken into a watch glass. The tip is then sealed again. This drop is for the purpose of standardization By means of a pipette drawn into a long capillary, equal parts of the bacterial suspension and blood from a normal person are mixed. These are sufficiently diluted and a smear on the slide is prepared and stained. By counting the total number of bacteria and red cells in a number of fields, an estimate of the number of bacteria per cubic centimeter is made.

The tube of bacterial suspension is sterilized by heating for an hour at 60 degrees C, on three successive days. The proper dilution of the vaccine is then made in sterile salt solution in a vaccine bottle as described above; the preparation is then lysolized. The various vaccines are all prepared in this way. Slight variations are made in certain instances, as with bacillus pyocyaneus. An hour's sterilization at 60 degrees C produces a sort of coagulum. This is avoided by thirty minutes sterilization at 59 degrees C, which also suffices to effect complete sterilization. The dosage of the vaccines depends upon the condition of the patient. The average dose of tuberculin is from 1-1200 mg. to 1-600 mg.; that for staphylococcic vaccine is an amount containing somewhere from 50,000 to 200,000 bacteria; that of gonococcic vaccine is about the same; some vaccines must be used in much less dosage, while others can be used in stronger concentration. The usual procedure is to give at first very small doses, watching the index carefully to see whether the response is as it should be.

### ADMINISTRATION OF VACCINES.

No vaccine is given without the opsonic index having first been obtained two or more times on different days. After the first dose the opsonic index is taken at intervals of a few days. The second dose is given shortly after the positive phase has assumed a position a little above what the level of the index was before inoculation of vaccine. In other words the inoculations should be made during the period of higher opsonic index, known as the positive phase. This interval is in contrast to an interval occurring shortly after inoculation; which is spoken of as the negative phase. The duration of each of these phases is variable. In one case an inoculation of vaccin may be made every ten days—which is perhaps about an average interval between doses—and again the time may be shorter or much longer.

In case a second inoculation of vaccine is given too soon, the negative phase of the second will further accentuate that of the first and the results may be bad. Or if the dose of vaccine is too large the negative phase may be so marked and prolonged that untoward results will follow before the positive phase has time to develop. The case in which bad results have been reported from the use of Koch's tuberculin are doubtless due either to the injection of too large a dose, or to injecting it at an inopportune time. A local infection may develop into a general bacteriaemia if an excesisve negative phase is caused. The negative phase and the positive phase may each produce clinical symptoms; but unless the phases are quite well marked, the symptoms do not occur. The typical tuberculin reaction—increased temperature, feeling of general malaise, etc.—occurs simultaneuosly with the negative phase following a large dose. A positive phase causes the patient to feel better and his general condition is better. If the index remains high for a long period after an inoculation it is not necessary to repeat the injection for some time.

### RESULTS.

Wright says, "I do not hesitate to contend that we have, in the power of raising the antibacterial powers of the blood with respect to any invading microbe, out of all comparison the most valuable asset in medicine." Any disease, the cause of which is bacteria that can be isolated and grown in the laboratory, may be treated by the use of vaccines. The following vaccines have been used by Sir A. E. Wright, his associates and others, to treat the corresponding bacterial infection: Malta fever vaccine, tubercle vaccine, streptococcus vaccine, plague vaccine, pneumococcus vaccine, staphylococcus vaccine, gonococcus vaccine, proteus vaccine and a series of vaccines made from the different strains of bacillus coli. The results in practically all are highly gratifying. For the most part the cases which have been subjected to treatment with vaccines have been those whose conditions have been chronic and non-yielding to the usual medicinal treatment.

More work has been done in tuberculosis than in any other disease. Various forms of this malady have been experimented with and practically all the forms have been benefited to a greater or less degree. The forms of localized tuberculosis which have been

treated at St. Mary's Hospital, London, are classified as lupus, tuberculous ulceration of the subcutaneous tissues and bone, tuberculous glands, tuberculous disease of the genito-urinary system, tuberculous disease of joints, tuberculous peritonitis, and apyrexial phthisis. Examples of each of the above have been treated in Professor Wright's laboratory. For the greater part, cases in which objective evidence of any alteration in the clinical conditions, and preferably those where ordinary surgical methods had been unsuccessfully applied, have been selected.

The following histories taken from a report of Professor Wright on The Treatment of Tuberculosis by Tuberculin, serve to illustrate the progress of the cases under the vaccine therapy. The cases are selected on account of the shortness of the report on the case, in order to give one as good an idea of this therapy with as little reading as possible:

CASE 1.—The patient is a female, aged 20. When she presented herself for treatment in December, 1903, she had the appearance of a child. Her bones protruded through the skin of her back somewhat after the fashion in which bones protrude in dried fish. The point of her nose was covered with a thick mass of scabs superposed upon a very angry-looking patch of lupus. The angle of the jaw and the front of the neck were occupied by patches of lupus in a similar condition. Both her feet and her hands were affected with lupus. Her hands in particular were a mere mass of ulceration, the bones of the hand being also affected in many places. The patient has made slow but steady progress under inoculation treatment. The ulcers on her right hand are nearly healed, and those on her left hand considerably amended, and her general physique has improved. The patches of lupus on the front of her neck and under the angle of the jaw are now represented by perfectly sound cicatrices and the patch of lupus on the nose is improving.

"CASE II.—The patient is a man, aged about 35, a furrier. When he presented himself last June for treatment the dorsum of his hand was occupied by a deep ulcer corresponding in dimensions with a full-sized watch and surrounded by a raised edge. The ulcer had been treated by scraping. The patient's tuberculoopsonic index stood at 0.85. Rapid improvement both in the opsonic index and in the clinical condition followed upon the inoculation of tuberculin, supplemented when this appeared desirable by the inoculation of staphylococcus vaccine. The ulcer has now entirely healed and the site of the ulcer is covered in with soft and elastic skin which does not in any way impede the movements of the fingers."

"CASE III.—The patient, who had been a nurse and who had already undergone two operations at the hands of a distinguished surgeon, was referred by him for treatment in April, 1904, with a recurrence of tubercular glands in the neck. After three months' inoculations the swelling in the glands had entirely subsided. In association with this there was a very marked improvement in the general health. By the desire of the patient the inoculations are still being continued as a precaution against further recurrence."

"CASE IV.—The patient, a girl, aged 4, came under treatment in connection with a recurrence of glands very shortly after operation. Her tuberculoopsonic index stood at 0.7. After a series of six or seven inoculations the swelling in the glands had entirely disappeared."'

"CASE V.—The patient is a young woman of very good physique. She came under treatment first in January, 1905, with a history of tuberculous cystitis and tuberculous disease of the kidney dating back two years. One of her kidneys had been removed and there was evidence of the involvement of the other kidney. The urine contained pus in considerable amount, and in association with his many tubercle bacilli and several varieties of contaminating bacteria, among others proteus. The patient's tuberculoopsonic index was tested on two occasions before the inoculation treatment was initiated. On the first occasion it stood at 0.75, on the second occasion at 0.35. An improvement in the patient's symptoms set in practically immediately after the first inoculation undertaken with 1-800 milligramme. The tuberculoopsonic power rose on the day after inoculation to 1.7, and continued at this height or near this point for the next six days. An inoculation undertaken on this day with 1-400 milligramme brought down the opsonic power of the blood. In association with this the patient complained of more pain. After the inoculations had been continued for about six months, when the tubercle bacilli had disappeared from the urine, and when, as a result of the inoculation of a proteus vaccine the proteus also had disappeared, the patient felt so well hat she mooted the question of engagement and marriage. Since then she has suffered a relapse, developing an acute cystitis. This attack, which was apparently associated with a reappearance of the proteus in the urine, is now subsiding."

SUMMARY AND CONCLUSIONS.

1. Phagocytosis of bacteria goes on only in the presence of serum. The substances in

the serum which excite the corpuscles to phagocytosis are designated by Wright as opsonins.

2. The relation of the quantity of the opsonins of one individual's blood, to that of another is referred to as the opsonic index.

3. The opsonic index of any healthy individual is approximately equal to one.

4. The opsonic index of the blood of a person who is the subject of a bacterial infection may be equal to one, less than one, or more than one.

5. Toxines, on being introduced into the system, affect the opsonic index—producing at first a lower opsonic index, a "negative phase" and second, a higher opsonic index, a "positive phase."

6. A vaccine, i.e., a standardized and sterilized suspension of bacteria in a saline solution, may be used to bring about a change in the opsonic index. If this vaccine is given in the proper doses and at the proper time, a higher opsonic index will result. This higher position of the resistance of the body may be sustained by the proper continuance of the vaccine inoculations.

7. The giving of large doses of a vaccine simultaneously with the absorption of a quantity of toxine from a bacterial focus or at a time when the resistance of the body is excessively low may cause a general infection to develop suddenly from a local one.

8. The inoculation of vaccines is without doubt much safer when controlled by the taking of the opsonic index at frequent intervals, than when not so controlled.

9. The application of the vaccines to therapeutics is quite broad. Any disease the result of bacteria which can be grown in the laboratory may be treated by the use of vaccines.

10. The good results so far, obtained by the use of vaccines, warrant further trial in case of infection.

Humboldt Building.

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**Blood Pressure in Arteriosclerosis and Bright's Disease.**—A. R. Elliott, Chicago (Jour. A. M. A., April 13), reports and discusses the variations in systolic blood pressure in certain cases of arteriosclerosis and chronic renal disease which had been under routine observation for considerable periods of time. The gauges used were Cook's modification of the Riva-Rocci apparatus with a 9 cm. arm band and Stanton's sphygmomanometer. The great majority of the observations were taken with the patient, in the sitting position, the exact conditions were sought to be duplicated and physical repose and mental tranquility of the subject under observation, so far as possible, were secured. In 30 cases of arteriosclerosis observed in this way in only six (20 per cent) was there a positive hypertension. This high percentage of cases without excessive tension shows that the degree of sclerosis of superficial arteries is no criterion of the severity of the sclerosis of visceral arteries or of the degree of tension present. If we can exclude chronic nephritis when high blood pressure and cardiac hypertrophy develop, we have reason to suspect splanchnic or aortic sclerosis. Sixty cases of chronic Bright's disease were also observed and the high average blood pressure in these (190 mm.) was in marked contrast with the cases of arteriosclerosis. No constant ratio was observed between the degree of blood pressure and the intensity of the albuminuria or the amount of urine excreted. High tension in Bright's disease is in a way compensatory, but it needs watching. The first indication is to reduce, if possible, the systemic toxemia, and diet, fluid intake, elimination and personal hygiene generally must be looked after. The question of special vascular medication, however, is discussed. Before giving vascular drugs, ascertain thoroughly the cardiac and circulatory conditions; high pressure does not always require reduction by drugs. In emergencies, such as angina pectoris, apoplexy, etc., they may be called for. A sustained high pressure, with disquieting symptoms may call for vasodilator medication, but it should be given cautiously, watching the effects. A fall of 10 or 15 per cent is all that it is necessary or judicious to produce. The benefit from such medication must not be estimated by the blood pressure record, the patient's comfort, and the pulse rate are better indications of the effect produced. The use of vasodilators in the late stages of Bright's disease, with cardiac dilatation, dropsy, etc., is practically useless.

**Naked Truth.**—Francis Wilson tells of an encounter of wits that took place between the late Eugene Field and a New York woman.

It was at dinner, and the woman was in evening dress, which was rather décolleté. After a skirmish between the two relative to the respective merits of a well known author, it would seem that Field came off second best.

"Oh, Mr. Field," exclaimed the woman exultantly, "you must admit that you are fairly beaten at your own game!"

Field bowed politely, and with a smile promptly rejoined: "At any rate, Miss Blank, I have one consolation: you can't laugh at me in your sleeve."—June Lippincott's.

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## *OFFICIAL TRANSACTIONS.*

### TUMOR OF THE BRAIN—REPORT OF TWO CASES AND PRESENTATION OF SPECIMENS.*


E. SPENCER CLARK, M. D.

ST. LOUIS, MO.


BRAIN TUMORS, taken broadly, cover all new formations within the skull. Strictly speaking, new formations arising from the meninges and cranial walls should not be included, but as they present symptoms identical with lesions of the cortex, and localized in the same way, we usually include them.

Tyson's grouping in approximate order of frequency is: 1, Tyroma or tubercular; 2, glioma; 3, sarcoma; 4, carcinoma; 5, cystic; 6, gumma; 7, hystoid and other more rare varieties.

Tyroma, carcinoma and parasitic cysts may be traced from distant morbid areas. Sarcoma and glioma are attributed to hematic origin. Some maintain that trauma and heredity are over-emphasized, yet trauma is often the cause of inciting a latent luetic or tubercular growth.

Sarcoma are prevalent during early and middle life, and few tumors of brain, of any nature appear after the age of 60 years.

The duration is from a few months to two or three years, though some do become latent, and the individual may live many years.

As the pathological specimen I wish to present is of a sarcoma, I quote on the pathology from Dana:

"The sarcoma and its various modifications form perhaps the most important and almost the most frequent of the brain tumors. The sarcoma is a tumor of connective tissue origin; it develops, therefore, from the brain membranes or from the sheaths of the blood vessels. Sarcomas may be single or double. They may be of all shapes, and they grow to very varying sizes. They often develop a capsule. They may be either primary or secondary. Their growth is often rapid. They are white or grayish in appearance, or may be somewhat yellowish, dependent on the predominance of the different kinds of cells and blood vessels. Microscopically they are made up of small round cells, spindle cells and other cells of various sizes and forms. They contain often considerable fibrous tissue. They contain blood vessels, but are not richly vascular. The essential characteristic of the sarcoma is the rich development of round cells and spindle cells; in other words, its rich cellular contents. Sarcomata are peculiar in undergoing many modifications. Thus sometimes fibrous tissue develops largely and the tumor is called a fibro-sarcoma; sometimes the tumor undergoes mucous degeneration and is called a myxo-sarcoma. There may be a breaking down at the center with the formation of cysts. There may be a development of pigment. Not infrequently a sarcomatous process invades a glioma, and we have a mixture of a sarcoma and a glioma. Sarcomatous tumors sometimes have an alveolar structure. These tumors contain endothelial cells derived from the lymphatics, and are called endotheliomа—if sarcomata from dura mater, with calcareous deposits, psommomta."

The following group of symptoms are accepted by a number of authors:

1. Persistent headaches.
2. Tenderness on pressure and percussion over the affected brain area.
3. Vomiting, projectile in character and not accompanied by nausea.
4. Vertigo.
5. Optic neuritis in from 80 to 90%.
6. Choked discs.
7. Mental disturbances.
8. Constitutional symptoms.
9. And a progressive course of the disease.

It occasionally happens that a brain tumor may produce no symptoms whatever, being thoroughly latent and disclosed only at autopsy, as in a patient of mine, Maloney, who died January 18, 1907, of uremia, and who had a tumor of the hypophysis cerebri, which was 2 cm. in diameter, and aside from irrational hours, there were no distinctive symptoms.

The focal symptoms aid in the localization of the tumor, for this purpose the brain is divided into the following important areas: (1)

*Read at the meeting of March 7, 1907.

prefrontal; (2) central; (3) parietal; (4) occipital; (5) tempero sphenoidal; (6) pons and medulla; (7) cerebellum.

In brief, imbecility and irritability point toward an involvement of the prefrontal area.

Spasms of legs, arms or face refer us to the central area. "Destructive lesions cause paralysis, and this may have the same distribution as the convulsions which some time precede; if on the left side in right-handed persons, aphasia and agraphia may result."

If we have to deal with an impairment of the stereagnostic perception it may be a tumor in the parietal area.

Hemianesthesia and perhaps hemplegia from involvement of the internal capsule points to the occipital lobe.

Word deafness may indicate tumor of the tempero sphenoidal area.

Conjugate deviation away from the side affected are present in tumors of the pons or medulla.

Cerebellar ataxia suggests a new growth of the cerebellum.

"Many cases run a chronic course. Others may have existed months or years without symptoms, and then develop suddenly, owing to hemorrhage, thrombosis or acute softening about the tumor. Either improvement may take place, or the case may speedily progress to a fatal termination" (Anders).

*Diagnosis.*—I have already enumerated the group of symptoms, themselves quite diagnostic, but we must always eliminate. Nephritis by the presence of albumen, polyuria or tube casts; saturnism by its definite pain area and the blue line, and various anemias. We still must bear in mind meningitis, which is often present in most fatal tumor cases; also meningeal thickenings, hemorrhage, aneurism and abscess.

Sarcoma, as in my case, may be diagnosed clinically cerebral thrombosis, because of the gradual onset. Death, too, may be due to thrombosis caused by pressure of the tumor mass.

*Prognosis.*—Church and Peterson says if 93% of brain tumors are inoperable and syphiloma are only partially amenable to medicinal treatment, the gravity of the disease is apparent.

*Treatment.*—Sarcoma, because of its comparatively definite boundaries and ofttimes encapsulated may be dissected out, if near the periphery. Davis says less than 5% of tumors are operable, and these lie in the central or parietal areas.

Sarcomatous tumors are helped by arsenic, and some claim that iodides check the growth.

Trephining in certain cases is indicated to relieve intracranial pressure.

Patient A.—Hospital No. 5562. Entered hospital November 7, 1906, and died January 6, 1907. Fireman; 43 years of age. Further than the fact that he says his mother died of dropsy, the family record is negative. Had gonorrhea five times, but denies having had syphilis. At age of 21 years he suffered from a sunstroke in India, and was confined to his bed ten weeks. Had good health till October 30, 1906. Began using intoxicants at age of 20, and was an excessive drinker for 15 years. Recent years he has drank in moderation. In earlier years his sexual indulgences were excessive. Is somewhat irregular in eating and sleeping.

November 7.—Well developed white man; tongue a little tremulous; bowels costive. Pulse 80, full, regular and good tension. An advancing arterio-sclerosis is present. Thorax is symmetrical and expands well, negative. Abdomen flaccid, negative.

Genito-urinary System.—An old urethral stricture troubles him a times. Urinalysis, 1029, amber, acid, clear, no albumen or sugar; calcium oxalate present; no casts.

November 11.—Nervous System.—Pupils equal and react to light and accommodation. Hearing normal. Some motor aphasia. Power of expression in right face is diminished. Right orbicularis palpebrum is weakened. Sensory areas of face are symmetrical and normal. Cornea not anesthetic. Body pain sensation normal. Patellars slightly exaggerated. Babinski on right side.

On October 30, while working he noticed a weakness and numbness appear in his right arm and leg. No pain. A headache also accompanied these symptoms of the onset. Has had some attacks of vertigo; appetite is fair. Worked four days, till on account of an increasing severity of the numbness, weakness, vertigo and headache, he quit work. The day following a pain appeared in the back of the neck, he too noticed an impediment in his speech. Patient knows fully what he wishes to say, but has much difficulty in expression.

November 12.—Patellars unequal, right is exaggerated. The muscles on the right side, face included, are becoming weak. Tongue is pushed out toward the right side. The mouth is drawn towards the left. The aphonia is increased.

January 2.—Gradually sinking. All the early symptoms have increased in severity. Is very weak and vomits at times; paralysis of right side is present. Mind is becoming clouded.

January 5.—During the past two weeks the temperature has reached 101 two times.

January 8, 101.6, and today, 105.6. Died at 2:30 p.m.

January 8.—Autopsy Findings.—Brain—marked congestion of meninges and scattered points of adhesion over frontal lobes between the dura and pia. No visible arterio-sclerosis of the circle of Willis. Section shows soft yellowish to brown area with indefinite outline, approximating size of hen's egg, located around the external and internal capsule on left side.

Patient B. Hospital No. 6928.—Laborer 75 years and looks to be 90 years old. Fairly well nourished. Cannot talk, so neither family, personal history and habits, nor the onset of his present condition are obtainable. His face is void of expression, and he can scarcely push his tongue about in his mouth. Vessels of neck pulsate visibly. Thorax large, deep antero-posteriorly emphysematous in appearance. All over the chest are tiny stellate markings pink and blue in color. Very thickly and generally distributed. Costal type of respiration is markedly limited. The percussion notes are similar, hyper-resonant in general; no indications of consolidation. Heart sounds are irregular and tumultuous. Aortic closure accentuated and the sounds are audible all over the chest. The breathing is of a tubular type. The abdomen is flaccid with no tenderness. The left arm is practically useless; flaccid fingers are semiflexed. On dorsum of hand is a hemorrhagic area 2 x 2½ inches, probably due to an injury, perhaps a blow. The circulation is good. Muscles respond to local irritation. Pain sensation is present. Left leg is partly disabled; knee-jerk is exaggerated and sensation is present. Vessels are quite compressible and not nearly as sclerotic as expected. He does not complain of pain and after a few days he seemed to improve and made signs indicating his desires.

He gradually grew weaker, and died having been in the ward only eleven days.

January 19.—Autopsy Findings.—Brain—Meninges thickened. Brain is edematous, surface vessels are greatly injected; the convolutions of superior and anterior portions are softened. Brain is soft and flattens by own weight. Throughout the basal region, especially internal capsule on right, the tissue is softened and middle cerebral is thrombosis. Lateral ventricles contain clear fluid. Fourth ventricle is negative.. I add the remainder of the autopsy findings to show what an assortment of conditions a man can harbor, and yet live: Old double healed pleurisy; obilterated pericarditis with calcification of pericardium; fatty degeneration of the heart; cirrhosis of liver, spleen and perisplenitis; infarction and cystic degeneration and cirrhosis kidney; prostate hypertrophied; arterio-sclerosis; a single gall-stone.

DISCUSSION.

Dr. Given Campbell.—I think the society is to be congratulated, not only as to the specimens, but on the able way in which Dr. Clark has presented the subject. It is so thoroughly covered in the paper and in the discussion that there is not much for me to add. Most of these cases do not come to the neurologist first, but to the general practitioner, and are overlooked for a time. I would like to emphasize the importance of giving due weight to persistent headache in any patient. Persistent headache does not make the ordinary physician think of brain tumor as quickly as it should. Of course, it does not always mean brain tumor. Perhaps the next most important symptom is optic neuritis. If the two are together it is very suspicious of brain tumor, but does not necessarily mean that the patient has brain tumor. It is difficult to distinguish between brain tumor and meningitis. There are many points to be considered in the differential diagnosis. Cases may have the typical headache, and may be tumor, and yet not have the choked disc. Choked disc is apt to come especially early in tumors of the cerebellum. In the absence of choked disc, with severe headache, the next important symptom is an abnormal slowing of the pulse. Vertigo is sometimes a symptom, but rather indefinite. Perhaps one of the mistakes most frequently made by general practitioners is that of attaching too much importance to the symptoms of Jacksonian epilepsy, although it is true that a good many cases show these symptoms.

Dr. Homan.—Before Dr. Campbell takes his seat, he has referred to persistent headache; can he give the characteristics of that more fully, if there are any?

Dr. Campbell.—The most important characteristic is the exclusion of any other causes for headache, especially neurasthenia, hysteria, and especially if it occurs in a patient not impressionable and liable to magnify pain, who was never subjected to severe headache before and commences to have a headache that is persistent and lasting for a number of days or a week or so at a time, and not much relieved by the ordinary analgesics.

Dr. Frank Fry.—Dr. Clark has canvassed the symptoms so thoroughly that there is but little more that can be said. The practical diagnosis of tumors resolves itself into giving due weight to the various symptoms of each case, and that is what makes the diagnosis so very difficult in many cases which we encounter in practice. For instance, a patient may present himself with all the

symptoms of tumor of the brain in a degree, and as we study the case we have sometimes to practically eliminate symptoms which we have at first considered as being of importance. I do not know how to attempt to canvass all the symptoms in such a way as to lay down any rule or suggestion by which we might proceed to analyze symptoms of brain tumor. That is something to be done with each individual case, practically, as we encounter it. Even when we have done the best we can in such an analytical attempt, and even when studying a case of tumor for considerable time, we often miss the diagnosis. I read recently an excerpt from somebody's article in which were recounted quite a number of cases that had been under observation of trained and prominent neurologists. It was a collection of cases from very good sources in which the diagnosis of tumor of the brain had been made, and the subsequent course of the cases revealed the fact that there had not been a tumor. In many of these cases there was no guessing what the intracranial processes had been that had produced these symptoms. That is the experience of every one, I am sure, who has studied many cases of supposable tumor. While we might undertake to name the symptoms numerically in their value for diagnostic purposes, that fact does not do us much good. For instance, the relative frequency of optic neuritis, or headache. We might tabulate cases and show the relative frequency of these various symptoms, but if we undertook to diagnosticate cases from such a tabulated arrangement, we would often fail, which emphasizes the statement already made that the value of the symptoms is to be determined as we are studying each case. The more recent canvass of the subject brings out facts now and then that are interesting, facts which I believe are all the time helping us to be more certain in our diagnoses. Without delaying on this point, there are two facts which I would mention: one is the optic neuritis. Its importance has evidently been overlooked, and I think, in the light of recent investigations, the fact must be emphasized that we can only estimate the value of optic neuritis by watching it as nearly as possible from day to day. Optic neuritis may develop within a few hours. A few hours previously there may be no signs, and a few hours after, an examination will show unmistakable signs. Cushing in a recent article has illustrated this fact in a case in which he had operated for removal of Geserian ganglion, the eyes having been examined before operation, were found after operation to be edematous. If an operation of that kind may produce for a few hours a discernible haziness of the disc, we can understand how the variable pressure intracranially from a tumor may produce a great deal of variableness in this sign. The second point that I would emphasize is that tumors of the anterior areas are localized with an increasing confidence. In his resume Dr. Clark notices the symptoms which indicate an involvement of the anterior lobes, the importance of those symptoms has until a comparatively recent period been overlooked. We have not been in the habit of scrutinizing our patients as carefully as we do now. These are all interesting pathological specimens; clinically, however, they are not of much interest. Unfortunately, the patients are often in a condition when they come under observation, preventing the opportunity for nice diagnoses that we like to make when studying tumor cases. Neurologists take a good deal of pride today in discovering the earliest focalizing or localizing symptoms of tumor.

Dr. H. M. Post.—I have heard with much interest the discussion of this subject by neurologists and surgeons. And at your request will add a few words on the indications of cerebral tumors, which are seen with the ophthalmoscope. The chief thing that we observe is the condition of the disc. When we find, as is frequently the case, that the disc is normal, we are not justified in denying the presence of a tumor, as it may exist without any swelling. In cerebral tumor, when the disc is swollen the condition of the disc is edematous, due to pressure, rather than inflammatory. We find more or less swelling of the disc in various conditions. My practice has been to differentiate brain tumors from optic neuritis, due to meningitis, etc., by the amount of swelling of the disc. We measure the swelling by measuring the refraction of the eye with the ophthalmoscope. If we measure the swelling of the disc to be under three diopters we think the case is not one of cerebral tumor, but where we measure it as four, five or six diopters we think there is a cerebral tumor. This, I believe, is really the chief point, in the diagnosis of brain tumor by the ophthalmoscope.

Dr. Bliss.—I wish to emphasize this question of decompression without any reference to the location or character of the tumor. I believe it has found a rather well fixed place in brain surgery. In a recent discussion of cerebral tumors by Mills and others, a number of observations are given, showing that within the next ten days after a decompression operation, the swelling of the disc had greatly diminished. Not much change occurs before that time according to recent ob-

servations, which our experience confirms. To save the disc decompression should be done early in the progress of cerebral tumor.

Dr. Henry Jacobson.—I have had excellent results in two cases that I now recall. One while I was assistant physician at city dispensary, was a sporting woman who developed brain gumma with marked syphilitic symptoms, characteristic vomiting, hebitude, slow in answering, severe headache, etc. The case improved very rapidly under mercurial unction. I lost track of her after one year. The second case I have had under observation for twelve years. There was a history of vigorous antisyphilitic treatment three years with apparent recovery; he married against my advice and had a child with symptoms of hereditary syphilis. Eight or nine years ago, he developed symptoms of syphilitic gumma or tumor of the brain, intense headache, whirling around to left and falling when he arose, blindness, internal headache, uncontrollable vomiting. His symptoms also disappeared after vigorous treatment of unction of mercury. I saw him about a year ago, and he says he has no more manifestations. He has entirely recovered from all syphilitic symptoms; has good health, rosy cheeks, and writes occasionally that he has no illness whatever.

Dr. Hoge.—It has been stated ataxia indicates that the tumor implicates the cerebellum. Ataxia alone does not necessarily indicate this condition. It indicates an implication of some part of the central apparatus of equilibrium, which is a rather complicated one, comprising in addition to the centers in the cerebellum, tracts connecting these with certain areas of the brain-stem and cerebrum, and lesions implicating these tracts entirely outside the cerebellum not infrequently give rise to ataxia. This may occur in tumors of frontal region. I saw a case of this kind a few months ago. I was only able to make one examinaion. The symptoms strongly pointed towards a brain tumor, but were not quite conclusive. I did not have an opportunity to have the fundus of the eye examined on that occasion, and the patient did not return. The only focal symptom was that the right angle of the mouth was slightly drawn to the right. This was not quite distinct enough to base a positive opinion on. This case afterwards developed a hemiplegia with frequent convulsions, and was operated on, and a malignant growth found in the left frontal region, implicating the left motor area. In this case there was distinct ataxia with tendency to fall backward.

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# THE MEDICAL FORTNIGHTLY

**Issued Tenth and Twenty-Fifth of Every Month.**

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Managing Editor.

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## EDITORIAL

**Obscene and Objectionable Advertising.**

A CAMPAIGN to eliminate obscene and objectionable advertising has been supposedly in progress in St. Louis for some months; at the time of its inauguration there was considerable talk of purging the press of matter which must be unwelcome in any home. Cases have been brought to trial and judgments secured and appeals taken, months have passed, and except for a slight cessation just at the start when these advertisers thought we were really in earnest and meant business conditions are not improved. There are those who thought from the start that a mistake was made in not making the campaign against the mediums which published these ads. It seemed impossible to interest the legal officials in any such endeavor and obstacles were found at every turn, finally a case was brought against an obscure sheet rather than against the chief offenders, and the case is dragging along; it seems hopeless in such a case to get to final judgment. There always seems to be an occasion for an *appeal*, and the appeal always seems to be granted. It is a satisfaction to note that the National government is becoming interested in this subject, and that we may hope for a cleansing through that agency should it continue the policy lately inaugurated in Chicago. We note in correspondence to the Journal that the assistant attorney general for the Postoffice Department at Washington has notified the Chicago postmaster that the Postmaster-General has declared unmailable certain advertisements because they contain information as to where abortifacients and criminal operations can be obtained, in violation of the provisions of the statutes of the United States. It is ordered that any papers carrying these advertisements will be refused admission to the mails, and the newspapers of

Chicago have been notified to this effect. The advertisements in question are those of twenty-one persons and firms in Chicago which appeal to the laity through the press. Directions have also been given by the Postmaster-General under the provisions of the act of March 2, 1889, to treat as fictitious all mail addressed to nine of these and such mail will be returned to the writer where the senders address is enclosed. This is getting to the evil right. We have been working from the wrong end, and the reason for our failure is easy now that the right way is pointed out to us. Some time since Uncle Sam's man was here to abate the evil of an advertised *congestor*; our good uncle should be equally interested in illegal ads, plainly referring to abortion, and to filthily worded ads. relative to the nature and treatment of sexual and venereal diseases of male and female; and no less to the unspeakable "Personal Column." When the government decides that these are things unmailable there will be no further trouble about their abatement. Our efforts should be directed to gaining the co-operation of the Postoffice Department rather than in suits against newspapers or advertisers therein.

In this connection it is worthy of mention that St. Louis has at last an English daily which absolutely refuses space to any such advertisement; on this ground it should have the enthusiastic support of all lovers of decency, both in the profession and among the laity. The Times is new, but it is in no respect deficient as a newspaper, and it can be placed in the home circle without fear of having paraded therein the loathsome details of dysmenorrhea, impotence, gonorrhea, varicocele, etc.

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**The Meeting of the American Medical Association.**

Some four thousand physicians from all parts of our country are now enjoying the memory of attendance on another meeting of the American Medical Association and are feeling the impetus to better work which these meetings always impart. The Atlantic City meeting was quite the success that had been expected; its primary feature was scientific, and neither the cool weather nor side attractions hindered a feast of things scientific. The enthusiasm in the general sessions and in the various sections was inspiring, and the character of the program instructive. The association was very fortunate in its president, whose scholarly and scientific attainments are so well known to the profession; he has also the happy faculty of presiding. With Dr. Bryant in the chair there is never any doubt about things *moving*, and an amount of business is accomplished which could not be handled with a man less certain of himself and his fellows. The amount of work done in both business and scientific meetings was one of the remarkable features of the occasion, and the impetus seemed to be traceable to the president.

The association had as its guests a number of foreign physicians, and was able in a small way to return courtesies extended to us at the Toronto meeting of the British Medical Association in kind. The advantages of such interchange of fellowship should be encouraged. Among the physicians present from abroad were: Professor Epps, Germany; Prof. Albert Kocher, Switzerland; Prof. Herbert Patterson, London; Prof. Swiden, Berlin; Prof. Kister, Marburg; Prof. Gustav Killian, Freiburg, Germany; Prof. Charles Trow, Toronto; Prof. George T. Hoss, Montreal; Dr. D. G. Wishart, Toronto, and Prof. Adami, Montreal.

Any attempt to pick out notable features in the scienitfic work of the body must needs result in lamentable failure; the association has so many sections, and at each so strong a program had been arranged that it was difficult to decide which to attend, and it would be even more difficult to enumerate points of strength in the space at our disposal. We feel that the association is being most happily guided in its evident intention to strengthen the sections and make them so vigorous, each in its own line, that they will be able to so strongly attract as to make many of the independent special societies unnecessary. This feature in the movement toward consolidation and unification is being admirably carried out. Notable in this was the Ophthalmic Section, whose program and attendance was a surprise to some who knew it a few years since. The program presented was in itself of a strength which must presage the increased growth and influence of the section. It is probable that we might substitute the name of any other section in this statement and have it equally true. This line of progress we most heartily approve.

Atlantic City took care of the association in her usual competent style; she did not give us such warm weather as would make sea-bathing attractive to the less venturesome of us, but we would have had at the time nothing better anywhere; she housed us well; fed us well and made our stay generally comfortable; she made us want to come back.

Next year the association will meet in Chicago and the Mississippi Valley is going to

help make it the biggest meeting in the history of the organization.

The following officers were elected:

President—Dr. Herbert L. Burrell, Boston.

First Vice-President—Dr. Edwin Walker, Evansville, Indiana.

Second Vice-President, Dr. Hiram R. Burton, Lewes, Delaware.

Third Vice-President—Dr. George W. Crile, Cleveland, O.

Fourth Vice-President—Dr. W. Blair Stewart, Atlantic City, New Jersey.

General Secretary—Dr. George H. Simmons, Chicago.

Treasurer—Dr. Frank Billings, Chicago.

Trustees—Dr. T. J. Happel, Trenton, Tenn., re-elected (1907-1910); Dr. W. W. Grant, Denver, re-elected (1907-1910); Dr. Philip Marvel, Atlantic City, N. J., re-elected (1907-1910).

The other members of the Board are: Dr. E. E. Montgmery, Philadelphia, Pa., 1908; Dr. A. L. Wright, Carroll, Ia., 1908; Dr. H. L. E. Johnson, Washington, D. C., 1908; Dr. M. L. Harris, Chicago, Ill., 1909; Dr. Wm. H. Welch, Baltimore, Md., 1909; Dr. Miles F. Porter, Ft. Wayne, Ind., 1909.

Missouri was represented at the meeting by the following: Atkisson, Jas. A., Morehouse; Anthony, F. R., Maryville; Amerman, J. W., Nevada; Ball, Otho F., St. Louis; Byrne, John I., St. Joseph; Bell, John, St. Joseph; Bartlett, Willard, St. Louis; Cale, Geo. W., Jr., St. Louis; Cordier, A. H., Kansas City; Campbell, O. Beverly, St. Joseph; Davis, James D., Louisiana; Dorsett, Walter B., St. Louis; Dalton, H. C., St. Louis; Fassett. Chas. Wood, St. Joseph; Foster, Hal., Kansas City; Frick, W. J., Kansas City; Goldstein, Max A., St. Louis; Hartmann, J. A., St. Louis; Hofman, Ottokar, Jr., Kansas City; Hughes, Charles H., St. Louis; Jennett, H. M., Kansas City; Keiffer, Alonzo R., St. Louis; Kimberlin, Jos. W., Kansas City; Lewis, Bransford, St. Louis; Latham, H. W., Latham; Matlock, Clarence E., Steelville; Martin, J. R., Merwin; Miles, Herine, Webster Groves; Murphy, Franklin E., Kansas City; Mills, O. P., Grant City; Mook, Wm. H , St. Louis; McConnell, Guthrie, St. Louis; Orr, Charles J., St. Louis; Porter, H. L., Seneca; Porter, D. R., Kansas City; Pearse, Herman, E., Kansas City; Pearson, D. M., Louisiana; Riley, Cassius M., St. Louis; Rosenthal, M., Cape Girardeau; Stauffer, William H., St. Louis; Schultz, W. H., Kansas City; Seegar, J. King B., Baltimore; Shoemaker, J. F., St. Louis; Schleuter, Robert E., St. Louis; Short, Martha J., Rolla; Tiffany, F. B., Kansas City; Tupper, Paul Y., St. Louis; Van Eman, Frederick T., Kansas City; West, W. M., Monett; Williamson, Llewellyn, St. Louis; Amerland, J. H., St. Louis; Boehm, Joseph L., St. Louis; Barck, Carl, St. Louis; Dandurant, L. J., St. Joseph; Griffith, Jefferson D., Kansas City; Gleaves, O. G., St. Joseph; Green, John, Jr., St. Louis; Haire, R. D., Clinton; Loeb, Hannau W., St. Louis; Martin, J. R., Merwin; McCandless, W. A., St. Louis; Martin, T. A., St. Louis; Nash, G. A., Maryville; Punton, John, Kansas City; Robertson, Wm., St. Louis; Swaney, A. G., Lee's Summit; Sauer, W. E., St. Louis; Thornton, J. E., Columbia; Wiener, M., St. Louis; Hill, Roland, St. Louis; Bansbach, J. J., St. Joseph; Paul, T. M., St. Joseph; Dorsett, Lee E., St. Louis; Graham, Thos. E., St. Louis.

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**The Pet Dog.**

PRESS reports in the dailies of this city on the morning of June 16, tell us of five children who were bitten by dogs of the two preceding days, and we have personal knowledge of two adults having been bitten on Sunday!! We have often marveled at the presence of the dog in a civilized community, and at the uproar any effort to abate the nuisance raises. Let the dog catchers snare a cur and the whole community rises against them and they are lucky to escape bodily harm; let a dog die of a fit and a cry of poison is immediately raised and an effort is made to locate the fiend who could do so unholy a deed; but let the dogs bite and mutilate our little ones; let them inoculate an occasional child with that most dreadful of diseases, rabies; let them make night hideous to the extreme annoyance of all within hearing and to the physical disadvantage of the sick; let them make foot travel dangerous in certain sections after night-fall and isn't it a marvel that there is not a legalized war for extermination? Rabies is an absolute and horrible reality. The avoidance of one case of rabies would excuse the entire extermination of dogs from St. Louis. None except those who have witnessed the agony of a sufferer from this malady can appreciate what it means. Our streets are overrun with dogs and not one may not be the one which is to bite and inoculate the one who is nearest and dearest to you with this terrible disease. When you have seen a case of rabies, or when one who is dear to you has suffered it you will cease to look for human attributes in the dog, and will rather seek his elimination.

Those who visit Turkey always mention the presence of dogs as a definite index to the filth of the unspeakable Turk; a dog is

a dog whether in Turkey or America; he is naturally unclean; he is annoyingly noisy; he is shockingly immoral and indecent; he always may be extremely dangerous; he is rarely useful. Why do we have to have him?

## DEATH OF DR. PETER J. WEBER.

Dr. Peter J. Weber, an interne of the City Hospital died there on May 29th, of septic pneumonia, at the age of 30. He was a graduate of the Medical Department of Washington University. He had made himself an important factor in the medical conduct of the hospital and in the work of the Medical Society of City Hospital Alumni. The society adopted the following resolutions to his memory:

*Mr. President and Fellow Members of the Medical Society of the City Hospital Alumni:*

Regretfully we announce that the grim reaper death has again visited our society's membership and taken from our midst one of our most promising members in the person of Dr. Peter J. Weber, who died May 29, 1907, of septic poisoning while an active interne at the City Hospital.

It is well that we should know the past life's history of our noble friend and colleague, who entered the struggles of life under rather adverse and disheartening circumstances, being deprived of a mother's care and encouragement at an early and propitious age and of a father's guidance at a most critical period of the formulating portion of a young man's life, our friend was therefore left an orphan at the least desirable time.

His parentage being of that staunch Teutonic type, he inherited those sterling qualities which enabled him to meet life's adversities in the brilliant manner which he did.

He was as a boy a druggist's apprentice, beginning at the lowermost position and by frugality, steadfastness of purpose and love of his work acquired a ranking position in his then chosen profession, being the recipient of the Gold Medal at the St. Louis College of Pharmacy.

Not satisfied with the knowledge of medicine, thus obtained, he matriculated in the Medical Department of the Washington University, graduating in 1906, having won the high esteem of his teachers and fellow-students alike by his steady and earnest application. He possessed all those qualities that make the man.

In the competitive examination for the City Hospital interneship, he ranked second, and in this institution his painstaking efforts and gentlemanly quailties won for him an enviable position in the hearts of his associates. His ability was rightly recognized, death only preventing his further promotion to the much sought for position of senior assistant physician. We understand that his name received first consideration for the position mentioned; therefore, be it

*Resolved*, That in the death of Dr. Weber our society has lost one of its most promising members, a character worthy of emulation, and it is fitting that a page be set aside in our minutes to his memory, and that his near relatives be informed of this society's action.

Respectfully submitted,

Signed, Louis H. Behrens,
C. H. Shutt,
S. P. Martin,
Special Memorial Committee.

Dated June 6th, 1907.

The St. Louis Medical Society adjourned for its summer recess on the evening of June 15. It will reconvene in September. The work of the half year has been splendid and marks an advance in the temporal and scientific affairs of the body. A continuance of the spirit to the close of the year will make it remarkable for progress.

Dr. Woodson Exonerated, Resigns.—The troubles of Supt. Woodson and his staff at Missouri Hospital for the Insane, No. 2 at St. Joseph, have been very thoroughly aired in the daily press and need no further comment than the statement that the board holds that Dr. Woodson is not guilty as charged. After his acquittal Dr. Woodson handed in his resignation which, we understand, may be accepted. Dr. Woodson purposes resuming private practice.

Memorial to Dr. Glasgow.—The portrait in oil of the late Dr. William Carr Glasgow, which was ordered by the Glasgow Memorial Committee of the medical alumni of the Washington University, was delivered to Dr. W. A. Hardaway, chairman of the committee, June 12th, by Edmund H. Wuerpel of the St. Louis School of Fine Arts who received the commission for the painting. The picture, which was finished last week, is one of the best efforts of Mr. Wuerpel's brush. It will be hung temporarily in the faculty room at the Washington University Hospital. At the opening of the fall term of the university the painting will be permanently hung in the medical library at the university. Elaborate memorial ceremonies in honor of Dr. Glasgow will be held in the reading room of the library at this time.

# THE REVIEWER'S TABLE

Books, Reprints, and Instruments for this department, should be sent to the Managing Editor, Century Building, St. Louis.

THE ABDOMINAL AND PELVIC BRAIN, WITH AUTOMATIC VISCERAL GANGLIA. By Byron Robinson, B. S., M. D., Professor of Gynecology and Abdominal Surgery in the Illinois Medical College. Large octavo; 671 pages; 207 illustrations. Chicago: F. S. Betz, 1907.

Those of our readers who have in their libraries Byron Robinson's "Abdominal Brain and Automatic Visceral Ganglia" will recognize in this volume somewhat of an old friend. The copies of the earlier book were completely sold some years since, and the present enlarged volume is in a way its second edition, though of so much wider scope that it can hardly be so considered. This volume is practically a treatise on the abdominal sympathetic nerves and a resume of the researches of the author as announced in the medical press during the past fifteen years. The original anatomic researches represent tremendous labor; the collection of data, combination, revision and final editing are in themselves so tremendous an undertaking that but one man would have been able to have accomplished it and at the same time have lived a busy professional life. Reviews of such a book are necessarily weak for it is anatomic, original, highly scientific, and yet every page has a practical significance which should interest every doctor. A few chapters have been introduced not primarily anatomic, such as the consideration of constipation (in which he urges the claims of "visceral drainage" as a most rational therapeusis), sudden abdominal pain, shock, etc. The chapter on shock is contributed by Dr. Lucy Waite and is of an excellence in harmony with the rest of the volume.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare and H. R. M. Landis. Vol. I, March, 1907, and Vol. II, June, 1907. Issued quarterly, four octavo volumes containing 1200 pages, freely illustrated. Philadelphia and New York: Lea Brothers & Co., Publishers. (Annual subscription, heavy paper cover, $6.00 net; in cloth binding $9.00 net.)

The medical profession needs no introduction to Progressive Medicine, nor any explanation of its method of presenting the vital part of all that is being accomplished in the medical world to its readers. The explanation of its popularity is found in the high ability of its contributors and the original and scientific character of the matter presented, and in the co-operation of the publishers who offer such a bulk of scientific matter in so convenient a form and at so moderate a cost.

The March issue covers a very able consideration of Infectious Diseases by Prof. Robt. B. Preble of Northwestern University; Surgery of the Head, Neck and Chest by Prof. Chas. H. Frazier of the University of Pennsylvania; Diseases of Children by Prof. Floyd M. Crandall of the New York Polyclinic Hospital; Laryngology and Rhinology by Prof. D. B. Kyle of Jefferson Medical College; Otology by Prof. B. A. Randall of the University of Pennsylvania.

The June issue (No. 2 of 1907) brings up to date the following subjects: Hernia, which is considered by Prof. Wm. B. Coley of the New York College of Physicians and Surgeons; Surgery of the Abdomen exclusive of Hernia, by Prof. Edward M. Foote of the same school; Gynecology by Prof. John G. Clark of the University of Pennsylvania; Diseases of the Blood, Diathetic and Metabolic Diseases, Diseases of the Spleen, Thyroid and Lymphatic System by Prof. Alfred Stengel of the U. of P.; Ophthalmology by Prof. Edward Jackson of the Philadelphia Polyclinic.

A PRACTICIAN'S HAND-BOOK OF MATERIA MEDICA AND THERAPEUTICS, based upon established physiologic actions and the indications in small doses. By Thomas S. Blair, M.D. Over 250 pages, bound in limp library cloth. Philadelphia, Pa.: The Medical Council, 4105 Walnut street. (Price, $2.00 net.)

Many physicians, being above sectarian prejudice, would honestly use that which is most useful in the materia medica of each different school if it could be clearly pointed out to them and separated from that which is of doubtful value. There is no doubt that each sect has something of value in the agencies it employs in the treatment of disease, or its practice would soon fail. Around this nucleus they have accumulated much material that has little scientific value. It is the duty, as it should be the pleasure, of the physician who wants to do the best he can for his patients to study each school of therapeutics with a view to adopting anything in it that may be better than his own. But there is very much ground to go over, and much of it is stated in peculiar, exclusive terms, not the common language of the profession at large.

Dr. Blair, a regular physician of very high standing in his profession, has made a close study of the materia medica and therapeutics of each of the sectarian schools, has for many years tested their methods and remedies in his extensive practice, and has carefully noted in each one that which every practicing physician should know and be able to adopt in his practice.

The methods of obtaining the medicinal qualities of the various plant drugs are given, showing that our regular manufacturing pharmacists prepare some of them in a reliable manner, while the Eclectic and Botanic manufacturers prepare others better, and still others are better prepared by the homeopathic

manufacturers. These points of excellence in certain drugs are usually the ones that distinguish the particular school and give it whatever success in treatment its practicians achieve. In discussing these certain preparations the reasons why the sectarian brands are stronger, purer or more uniform than those found in other shops are clearly pointed out.

THE ANTI-TUBERCULOSIS CAMPAIGN.—The following speakers have been appointed from the St. Louis Medical Society to address meetings to be held in various sections of the city under the auspices of the St. Louis Society for the Prevention and Cure of Tuberculosis: N. Allison, L. H. Behrens, O. H. Brown., W. Baumgarten, Wm. Engelbach, W. E. Fischel, Jno. Green, Jr., Geo. Homan, H. W. Loeb, W. G,. Moore, Jesse Myer, H. G. Nicks, Wm. Porter, Louis Rassieur, E. W. Saunders, Ellsworth Smith, Justin Steer, W. E. Sauer, H. J. Scherck, J. B. Shapleigh, Hugo Summa, A. E. Taussig, Ralph Thompson, L. H. Warfield, Jno. Zahorsky.

A CONFERENCE of physicians interested in hydrotherapy was held at Atlantic City on June 4, 1907. Dr. Simon Baruch was called to the chair and Dr. Frank E. Brown appointed secretary. Representative physicians from several States discussed the importance of furthering the study, teaching, and practice of hydrotherapy and other physiological methods. A committee consisting of Drs. Hare of Jefferson, Thayer of Johns Hopkins, Baruch of Columbia, and F. E. Brown of Baltimore were appointed to formulate a symposium on these subjects for the next meeting of the American Medical Association.

MARINE-HOSPITAL SERVICE.—A board of officers will meet at the Bureau of the Public Health and Marine-Hospital Service, Washington, D. C., July 15, at 10 a. m., to examine candidates for admission to the grade of assistant surgeon to the Public Health and Marine-Hospital Service. Candidates must be between 22 and 30 years of age, and graduates of reputable medical colleges, and must furnish testimonials. The examination is to be physical, oral, written and clinical. For invitation to appear before the board application should be made to the Surgeon General, Public Health and Marine-Hospital Service, Washington, D. C.

THE cessation of a purulent discharge from the ear should not be taken as a sign of cure. The pus may have found its way into the mastoid cells.

## CORRESPONDENCE

### REPEAL ALL LICENSE LAWS.

Legislatures have adjourned in most states and medical men have endeavored in a number of places to improve the laws governing the practice of medicine, or to defend them against those who would try to weaken them. Has the effort been worth the price? Must we depend on legislation for higher medical education and higher standards?

We have seen that in spite of stringent laws depriving and regulating the practice of medicine, every form of quackery is boldly practised from Maine to Louisiana, and from Delaware to California. It is not at all difficult for any person to practice medicine in any city in this country, providing he styles himself by any fanciful name. In Pennsylvania and New York magnetic healers, massagists, mind healers, osteopaths, opticians, etc., practice medicine openly without let or hindrance! Judges, together with the governor of Pennsylvania, have declared that the practice of osteopathy is not practicing medicine, because forsooth no drugs are used. Otherwise intelligent legislators have told me that a man who does not use drugs ought not to be required to have the knowledge of a physician, even if such a person does everything else a physician ordinarily does. And the governor of Pennsylvania refused to sign the bill giving recognition to osteopaths, because in his opinion, the practise of osteopathy is not the practise of medicine, and should not be regulated under that head.

At best our medical laws are compromises, they legalize sectarianism and keep up differences that would otherwise have disappeared.

Can we not do without medical licenses? Would they not disappear or become inoperable if physicians, organized physicians wished it so? Who looks after the execution of medical laws? In our state any person can practise medicine, whether he has a license and diploma or not providing the officers of the county medical societies are unwilling to prosecute him. And when the society does prosecute, in the majority of instances the society loses. Therefore, without the cooperation of the organized medical societies all medical license laws would be a dead letter.

If we had no license laws the American Medical Association could bring together under its fold every physician worthy of recognition, the standard of admission could gradually be raised until the colleges would be obliged to have one standard, and that the highest a physician, a member of the A. M.

A., in one state would be duly recognized in any other state.

For the protection of the public, or perhaps merely for the information of the public, a list of all association doctors could be advertised in convenient places in each county and the public informed of the qualifications for membership required in our association.

Membership should be revoked for just cause. No member should consult or work on hospital boards with non-members. Each state or section should have control over its members, but they would have the right of appeal to the membership at large, or through a representative body.

Politics might creep into such an organization, but certainly nothing can equal the evils of the present situation. We have medical schools fighting the organized profession in the halls of legislation to prevent good laws. Each state license board, and in many states there are four separate boards open at all times to political corruption and trading. New sects maintaining lobbies and manipulating legislators to obtain recognition.

The time, money and patience of our best men used up in the endeavor to create public sentiment in favor of good measures or against obnoxious ones, and finally the great medical organizations obliged to dicker and compromise with the most blatant kind of charlatanry in order to get any legislative protection whatever.

Let us have done with all such compromises. Let us determine what kind of medical education a 20th century American physician should have and demand it.

Let us not be afraid of the competition of quacks, of masseurs, of faith healers, etc., but let us raise our own standards and our own ethics to the highest notch. If the public cannot recognize the difference, so much the worse for the public. The public will always cry after new gods, and the miracle worker will never be put out of business by law.

We must expect that the ignorant man will depend on his medicine fetish as before, and the society aspirant and learned theologian will proclaim the merits of the *new* method of healing and the *new* cure, no matter how hard we try to qualify ourselves or unselfishly strive to advance the cause of scientific medicine.

Too long have we tried to pass laws for the benefit of the public. Let us leave the public to itself, and do our very best to give to those who desire it the highest and best possible medical service. M. V. Ball.

## THE MISSOURI SANATORIUM FOR INCIPIENT TUBERCULOSIS.

*To the Editor of the Medical Fortnightly:*

In making the following statements, I am attempting to respond to rightful demands for information, by many friends of the institution and of the tuberculosis crusade in our state. Having been but recently officially connected with the sanatorium, I think I can sppeak fairly of the work of the commissioners whose duty has now terminated, and of the present condition of the work committed to the care of the Board of Managers.

Two years ago the legislature made a grant of $50,000 with which to begin the sanatorium. A commission consisting of Drs. Bayliss, McElwee and Eaton and Messrs. Gupton and Craig were appointed to select the site and decide on building plans. After considering a number of places, Mount Vernon in the southwestern part of the state was chosen. The only possible objection that can be made to the selection is the difficulty in reaching it. The site is beautiful and the surroundings all that could be desired. Mount Vernon is the attractive county seat of Lawrence county, on a branch of the main line of the St. Louis and San Francisco R. R., northwest twelve miles from Aurora.

Twenty-five thousand dollars were allowed for building purposes, to which the citizens of Mount Vernon added $6,000 and gave 190 acres of land with electric light and water privileges for five years. The other $25,000 were spent in fittings, ground expenses, expenses of the board, etc., all of which I believe were allowed by the State Auditor before the Board of Managers was organized.

The property coming into the hands of the Board of Managers, the land, facing southeast—on a hill overlooking the town from which it is a half mile distant—a most complete pavilion, costing nearly $25,000, temporary buildings, kitchens, stables, etc., furniture, diet kitchen outfit, laboratory, armamentarium and library, of these last items the inventory has not been given to the board.

The personnel of the board will interest many. The president is Dr. J. L. Eaton of Bismark, who certainly has my confidence. Mr. W. L. Gupton, of Montgomery City, the secretary, is well and favorably known to many of the best citizens of Missouri. Mr. W. D. Craig, of Galena, is a prominent business man of whose earnestness and integrity there can be no question. These three were on the Board of Commissioners. Two others were appointed. Mr. S. H. Minor, of Au-

rora, a well known citizen and banker, whose business methods and justice promises much for the board, and the fifth member myself.

I say unhesitatingly that the evident purpose of each member of the board is to make the sanatorium a success and that each one feels his responsibility, and realizes what it means to the State. There are many difficulties in the way, but I am more than ever confident that the best interests of the State will be subserved, and that neither politics, sentiment, nor sectional prejudice will sway the board from that purpose.

The last legislature gave $135,000 for additional buildings, of which sum the governor has thought best to withhold $60,000 this year, hoping that it may be obtainable next year. With the $65,000 one more pavilion will be built and furnished and the administration building finished this year. Next year the power house and domestic building will be completed if we can get the $60,000.

These buildings while seemingly costly for a sanatorium for incipient tuberculosis are necessarily the most expensive ones. The two pavilions will be needed, as the work grows, for infirmaries and the medical building, the domestic building and the power house certainly must be permanent and substantial. After carefully examining the present buildings and the plans so far as the five above mentioned are concerned, I can say that I heartily approve them. When other buildings for patients are added, which cannot be for at least two years, doubtless very different plans will be adopted.

The Board of Managers recognized that the medical conduct of the cases is most important for many even of the advocates of the sanatorium look upon it as experimental and ask "to be shown." One of the first acts of the board therefore was to decide that a physician well fitted in all respects as a diagnostician bacteriologist and microscopist should be secured to have personal charge of the patients and it seems at this writing that such a physician has been found, one who at considerable sacrifice but with the assurance of the support of the board will endeavor to make this great work a success. Dr. W. M. Bayliss of the former board of commissioners has been elected business superintendent with duties of the office and stewardship.

The Board of Managers will have to contend with a very small maintenance fund, only $10,000 for eighteen months. It is figured that with each patient there will be a deficit the law fixing the charge of all county and city patients at $5, and experience elsewhere shows this to be too small. It is intended however to make the best of it, and to open the sanatorium about August 1st.

One word more. I owe my place on the board to the will of the governor, who has shown great interest in the sanatorium and to my friends in the profession, for I made no application for the appointment. I appreciate the confidence, I ask that the same confidence may be extended to the other members of the board, and that forbearance may be shown because of present limitations. We feel that this is your work, and that we only represent you. If we cannot represent you well, we will stop, but with patience on your part and patience, hard work and some sacrifice on ours—we will succeed.

WILLIAM PORTER.

## SOCIETY PROCEEDINGS

### THE AMERICAN UROLOGIC ASSOCIATION.

The recent meeting of the American Urologic Association was easily the most active and successful of its short but very progressive career. The scientific work of the two days session covered a wide range and embraced a large number of papers which were practical and valuable from every standpoint. The discussions were entirely in harmony with the high standard of work shown by the essayists. The attendance was flatteringly good and included representatives from every section of the country. Among the important papers presented, might be mentioned the following, which received ample attention in the discussions that followed them:

Bullet Wounds of the Urethra, Joseph B. Bissell, New York.

Various Plastic Operations on the Urethra, Carl Beck, New York.

Urethral Auto reinfections, F. C. Valentine and T. M. Townsend, New York.

The Prostate, a Receptacle of Infection, A. Ravogli, Cincinnati, O.

A Study of the Prostate with Reference to the Curability of Gonorrhea, A. L. Wolbarst, New York.

A Study of the Elements found in the Urine after Vesiculo-Prostatic Massage, De-Santos Saxe, New York.

The Author's Universal Cystoscope, latest model, Bransford Lewis, St. Louis, Mo.

Some Observations upon the Causes of Leakage after the Operation of Prostatectomy, Granville MacGowan, Los Angeles, Cal.

The Report of a Case of Chyluria due to Filaria Sanguinis Hominis, R. F. O'Neil, Boston, Mass.

Some Urinary Infection with a Variety of the Staphylococcus Albus, A. L. Chute, Boston, Mass.

Jaundice due to Dislocated Kidney, A. Ernest Gallant, New York.

Symptomatology, Diagnosis and Treatment of Impacted Renal Calculus, F. M. Johnson, Boston, Mass.

Cases of Renal Tumor, Edgar Garceau, Boston, Mass.

Report of Cases of Symptomless Hematuria and Spontaneous Recovery Following Urethral Catheterization, Francis R. Hagner, Washington, D. C.

Following the executive session on Tuesday afternoon the constitution and by-laws as matured and submitted by Dr. Gallant of New York were adopted, giving the association a definite and satisfatcory working basis for its guidance in the future. The annual dinner held on the evening of the second day's session, at the Windsor Hotel, was a very delightful affair, being participated in by most of the very large attendance and presided over to the joy of all concerned, by Dr. E. L. Keyes, Jr., of New York. In introducing the several speakers, the toastmaster made use of well-constructed poems, fitting the individuals called upon. Dr. Keyes happy in the choice of both toasts and speakers.

The officers of the association elected for the ensuing year are as follows: President, Dr. H. H. Young of Baltimore; vice-president, Dr. R. R. Campbell of Chicago; secretary, Dr. Hugh Cabot of Boston; treasurer, Dr. A. L. Chute of Boston.

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Officers of the Indiana Society.—Officers for the ensuing year are: President, D. C. Peyton, Jeffersonville; vice-presidents, W. H. Stem, North Vernon, A. Knoefel, Linton, and George R. Green, Muncie; secretary, F. C. Heath, Indianapolis; treasurer, A. E. Bulson, Jr., Ft. Wayne; delegates to American Medical Association, June, 1907, W. N. Wishard, Indianapolis; L. L. Whiteside, Franklin; J.T. Dickes, Portland; councilors, Joseph Weinstein, Terre Haute; D.W. Stevenson, Richmond; George Roland, Covington; A. E. Bulson, Jr., Ft. Wayne. The next meeting of the society will be held at French Lick Springs, the date to be fixed by the Committee of Arrangements.

American Association of Medical Examiners.—The American Association of Medical Examiners held its eighth annual meeting at the Hotel Chalfonte, Atlantic City, N. J., on June 3d and 4th, 1907. It was the most successful meeting that this association has ever held; the attendance consisting of a number of prominent medical directors representing some of the largest life insurance companies of the United States, and in addition a number of medical examiners from various parts of the country were also present. The first session, Monday morning, was principally devoted to the reading of papers on subjects pertaining to accident insurance. Papers by Dr. Kingman B. Page, of New York, and George H. Bruce, Esq., of the same city, were excellent ones, and were followed by a full discussion. The afternoon session of June 3d was opened by a statistical paper on the subject of Diseases of the Female Pelvic Organs in Relation to Life Insurance by Dr. Frank C. Hammond, of Philadelphia. This paper was conceded by those present as being one of the best presented at any of the sessions. Another interesting and very valuable paper on statistics was read by Frederick L. Hoffman, Esq., statistician of one of the prominent life insurance companies. Mr. Hoffman considered the twelve diseases having the largest mortality. The closing session of the association on June 4th was devoted to a symposium on Diseases of the Chest Organs in Relation to Life Insurance, with the exception of an interesting paper by Dr. Graeme Harmond, of New York, on the Premonitory Signs of Nervous Diseases and Their Relation to Life Insurance Examinations. Papers by Drs. Clarence L. Wheaton, Chicago; L. F. Bishop, New York; T. Millman, Toronto; W. W. Pennell, Mt. Vernon, Ohio, and Crothers, Hartford, were read at this session and followed by a full discussion. The American Association of Medical Examiners recorded itself as being unanimously in favor of not accepting any reduction in the amount of compensation allowed by life insurance companies for the examination of an applicant, it being considered by all examiners present, that the minimum fee of five dollars was low enough and that insurance companies should be willing to pay that amount for a proper examination and report of any applicant, irrespective of the amount of policy applied for. The association also went on record as being in favor of the establishment of a bureau of health by the Federal Government, the secretary to be a physician and to rank in authority and importance with other members of the President's Cabinet. It was decided to hold the next annual meeting of the association at Chicago at a time to be determined upon later. The following officers were elected to serve for the ensuing year: C. H. Harbaugh, president, Philadelphia; Liston H. Montgomery vice-president, Chicago; Frank E. Allard, vice-president, Boston; B. J. O'Connor, vice-president, Louisville, Ky.; E. O. Kinne, vice-president, Syracuse, N. Y.; T. Millman, vice-president, Toronto, Canada; John Guy Monihan, secretary-treasurer, New York.

# REPORTS ON PROGRESS

Comprising the Regular Contributions of the Fortnightly Department Staff.

## INTERNAL MEDICINE.

O. E. LADEMANN, M. D.

**A Study of Five Hundred Cases of Pleurisy.**—Fraley (Am. Jour. of the Med. Scs., May, 1907) analyzes five hundred cases of pleurisy treated at the Pennsylvania Hospital from the years 1896 to 1905. In this series are included only inflammatory conditions of the pleura. Transudates, such as occur in cardiac and renal disease, or cases of chronic thickened pleura without symptoms or physical signs are not considered. Nearly twenty pages are given to the subject. He concludes his paper as follows: Pleurisy occurs at all ages, but most frequently from twenty to thirty. Pleurisy is most frequent in the spring and least in the fall. Pleurisy affects children under fifteen with equal frequency for boys and girls, but is four times as frequent in men as in women. The colored race is particularly susceptible. Occupation seems to have a decided predisposing effect. Croupous pneumonia is the most frequent cause of empyema, and bronchitis, or simple exposure to dampness and cold, seems to be more frequently the exciting cause of pleurisy than tuberculosis or rheumatism (as far as clinical evidence is found). Complications are frequent in hospital practice. Aspiration shortens appreciably the course of the disease, and usually requires to be performed but once to effect a cure. Examination of the blood is but moderately helpful and of doubtful value, as are also cytodiagnosis and inoscopy. Empyema is always dangerous, and its natural course almost invariably fatal. Resection and free drainage is the proper treatment.

**Changes Produced in the Kidneys by Roentgen Irradiation.**—Warthin (Am. Jour. of the Med. Scs., May, 1907) made a series of forty experimental investigations on white mice and rats, guinea-pigs, rabbits, and Belgian hares with the view of comparing the percutaneous effects of the rays upon the kidneys with those upon the lymphoid tissues. The small animals were placed wholly in the field of exposure, while in the larger ones the field of irradiation was limited to the abdominal region, including the spleen and kidneys. The animals were either killed by being opened under the influence of chloroform or were allowed to die spontaneously. In both cases the organs were removed from the body while warm and fixed at once in a saturated solution of mercuric chloride, or in Flemming's solution. Warthin deducts the following conclusions: 1. Percutaneous Roentgen ray exposures of small animals for half an hour to an hour produce at once slight nuclear changes in the renal epithelium, characterized by swelling to the nucleus vacuolation, clumping of the chromatin and some loss of staining power. Recovery from this primary injury to the chromatin is prompt, but these follows, after six to twelve hours, a secondary kidney change characterized by albuminuria and cloudy swelling. This second change occurs during the period of phagocytosis and removal of the lymphoid detritus from the spleen, bone-marrow, and lymph nodes, and appears to be in direct proportion to the degree of lymphoid destruction. It is, of course, possible that this second kidney change is but the result of the primary disturbance of the nucleus, but the first explanation seems to be the more probable. 2. In the case of an animal exposed continuously until death occurs the renal changes are marked, the renal cells being diminished in size, cloudy, and the tubules distended with an albuminous precipitate. 3. Continuous exposures of five hours or more are invariably fatal to small animals, death occurring within ten days following marked symptoms of paresis and coma. These symptoms also bear a definite relation to the amount of lymphoid destruction and to the kidney lesion. To what extent they are dependent upon direct injury to the central nervous system cannot be said at the present time. The character of the symptoms suggests a primary or secondary damage to the central nervous system. The assumption of a primary injury is upheld by the fact that all small animals exposed for five hours or more become either totally or partially blind. On the other hand, the progressive development of the symptoms some days after the injury is very suggestive of an intoxication, and the character of the symptoms accords with that of poisonings due to products of protein destruction. 4. If we make practical application of these conclusions it would seem that the destruction of great numbers of leucocytes, as occurs in Roentgen-ray treatment of leukemia, may be dangerous to the organism, either in its action upon the central nervous system or upon the kidneys. As to the occasional irradiation of the human body it is hardly likely that any serious damage to the kidneys could result, but in case of repeated and prolonged irradiation of the lymph nodes and spleen the possibility of renal injury should be borne in mind. Careful and repeated examinations of the urine, therefore, should be made in all such cases. In the case of a preexisting nephritis a dangerous exacerbation

may be excited by irradiation. 5. It is probable that the Roentgen rays cause disturbance of the chromatin of all cells, the lymphoid cells and the epithelial cells of the testes being the most susceptible. As compared with these the renal cells are much more resistent. In a general way, then, the view is upheld that all cells capable of rapid proliferation or renewal are especially susceptible to the action of Roentgen rays.

**The Detection of Free Hydrochloric Acid in the Stomach Contents.**— Steensma (Nederl Tjidschr. voor Geneeskunde, No. 4, 1907) suggests the substitution of phloridzin instead of phloroglucin in the Günsburg free hydrochloric acid reaction as the use of the former renders the test more delicate and efficient. The formula reads as follows: Phloridzin 2 grams, vanilin 1 gram, absolute alcohol 30 cc.

**The Bacteriology of the Blood in Typhoid Fever.**—Coleman and Buxton (Am. Jour. of the Med. Sci., June, 1907) have made bacteriological examinations of the blood in 123 cases of typhoid fever. Their monograph also includes a table of 1602 cases reported by various authors where bacteriological blood examinations were made. The typhoid bacillus was positive in 1197 cases and negative in 405 cases. In preparing the culture medium they used ox-bile, as recommended by Couradi, which not only prevents coagulation, but inhibits the bactericidal action of the drawn blood and affords an excellent culture medium for typhoid bacilli. The medium is made as follows: Ox-bile 90 cc., glycerin 10 cc., and peptone 2 grams. The mixture is distributed into small flasks, 20 cc. in each, and sterilized. Three of these flasks are used for each examination, about 3 cc. of blood, obtained from an all glass syringe from a vein at the bend of the elbow, being run in each. The flasks are then incubated, and the next morning streaks are made from each flask over the surface of a litmus-lactose-agar plate. If micro-organisms are present, a growth may be observed in five or six hours. If the growth does not redden the medium and is found to be a bacillus resembling the typhoid organism, it is tested for the Widal reaction with immune serum. The authors conclude their paper as follows: 1. The typhoid bacillus is present in the blood of every case of typhoid fever throughout its course. 2. The bacillemia in typhoid fever does not constitute a true septicemia, but it represents an overflow of bacilli from the lymphopoietic organs. 3. The clinical picture of typhoid fever results only from infection of the lymphopoietic organs by the typhoid bacillus, with invasion of the blood stream and destruction there of vast numbers of bacilli. 4. The endotoxins of the typhoid bacillus are not cumulative in action and convalescence from the typhoid fever per se is estabilshed within a few days after the disappearance of the bacilli from the blood.

**Severe Ocular Pain Associated with Grippe.**—Kroll (N. Y. Med. Jour., April 27, 1907) details 4 cases of endemic influenza presenting symptoms of sudden severe pain in the eyeball affecting one in the right and three in the left eye, which gradually subsided after lasting from 2 to 5 days. At no time during the course of the disease were there inflammatory evidences of either eyeball or its appendages. There was no pain on movement of the eyeball, no tenderness on pressure over the region supplied by the trigeminus, no hyperesthesia or vasomotor affections such as pallor, coldness, redness, heat or edema, and no atrophic disturbances. One case exhibited severe deepseated boring headache associated with nausea and vomiting. The temperature ranged from 99 deg. F. to 103 deg. F. Examinations of the urine were negative. There was no search made for the Pfeiffer bacillus. Physical exhaustion and mental depression followed the disease in each instance. Kroll is of the opinion that the lesion in these cases was a neuralgia of the ciliary nerves. It remains a matter of dispute in what manner the bacillus causes the neuralgia. It has been attributed to irritation of those terminal branches of the trigeminus which are situated in the sinuses in the vicinity of the nares. It may, however, be due to a blood toxemia acting on the nerve centers or nerve fibres, no true inflammation having taken place.

**Salicylism and Epistaxis.**—Leach (British Med. Jour., April 20, 1907) refers to the recently reported cases of nose bleeding in cases of influenza, and is inclined to look on the latter as due to the administered salicylates rather than the influenza toxins. This evidence of salicylism may occur independent of any head or kidney symptoms. It may be that only impure preparations of the salicylates are repsonsible for nose bleeding.

**Heart Block.**—Butler (Am. Jour. of the Med. Sci., May, 1907) reports a unique case of Adams-Stokes disease in a man 43 years old with a negative previous history. Remarkable was the extremely low pulse rate during the convulsive seizures, dropping to 6 beats or less per minute, nearly twenty seconds elapsing between successive beats on one occasion. Between the attack the pulse ranged from 14 to 20 beats. The epileptiform seizures, which were almost continuous in the last two days, began with a marked pallor, a

dropping of the pulse, the eyes rolled up and to the right, the pupils dilated, the head turned to the right, the lips were cyanosed and the arms became rigid and underwent slight clonic movements. Unconsciousness varied from partial to complete and was always brief. Previous to the end of the seizure the pulse began to beat more rapid and much more strongly, the face flushed and consciousness returned. Vomiting occurred with some frequency before the attack. The auricular pulsations in the veins of the neck were plainly visible, varying from 80 to 130 per minute, and the auriculoventricular pulse rate was suggestive of complete heart block, the ventricular systoles bearing no definite relation to those of the auricle. Over the third interspace to the left of the sternum there were audible faint fluttering sounds which were distinctly synchronous with the visible auricular pulsations. Microscopical sections of the bundle of His showed an extensive fatty infiltration and degeneration, so much so that it was atrophied to more than one-fifth of its normal size.

MELBA ON BREATHING.—I cannot too forcibly insist that the mere possession of a lovely voice is only the basis of vocal art. Nature occasionally startles one by the prodigality of her gifts but no student has any right to expect to sing by inspiration any more than an athlete may expect to win a race because he is naturally fleet of foot. Methods of breathing, "attack" and the use of the registers, must all be perfectly understood by the successful singer, who should likewise be complete master of all details relating to the structure and use of those parts above the voice box, and be convinced of the necessity of a perfectly controlled chest expansion in the production of tone. For perfect singing, correct breathing, strange as it may sound, is even more essential than a beautiful voice. No matter how exquisite the vocal organ may be, its beauty cannot be adequately demonstrated without proper breath control. Here is one of the old Italian secrets which many singers of today wholly lack, because they are unwilling to give the necessary time for the full development of breathing power and control. Phrasing, tone, resonance, expression, all depend upon respiration; and in my opinion musical students, even when too young to be allowed the free use of the voice, should be thoroughly taught the principles of breathing.—June Century.


# THE MEDICAL FORTNIGHTLY

**A Cosmopolitan Biweekly for the General Practitioner**

The Medical Fortnightly is devoted to the progress of the Practice and Science of Medicine and Surgery. Its aim is to present topics of interest and importance to physicians, and to this end, in addition to a well-selected corps of Department Editors, it has secured correspondents in the leading medical centers of Europe and America. Contributions of a scientific nature, and original in character, solicited. News of Societies, and of interesting medical topics, cordially invited.

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The Medical Fortnightly will not be discontinued at expiration of ubscription, as many of our readers prefer not to have their files broken on account of failure to remit. Unless we receive a distinct request to discontinue, and payment for all arrearages, this magazine will not be discontinued.

Subscriptions may begin at any time; volumes end with June and December.

Contributors should understand that corrected typewritten copy is essential to clean proof and prompt publication, and is much more satisfactory than manuscript. Original articles should be as condensed as justice to the subject will allow.

Editorial offices in St. Louis and St. Joseph, where specimen copies may be obtained, and subscriptions will be received.

Contributions and books for review should be addressed to the Managing Editor, 319 and 320 Century Building, St. Louis, Mo.


CORRECTION.—In an editorial of our last issue we stated that report had it that our State Association had elected to office one who was ineligible to the office to which he was elected. We are definitely informed that this is misinformation and take pleasure in making the correction. We do not regret the publication of this misstatement, as it has made possible its correction, and this may remove the report from further circulation.—EDITOR.

Acupuncture, followed by the application of the Bier cup is an excellent way of relieving dropsy of the legs.

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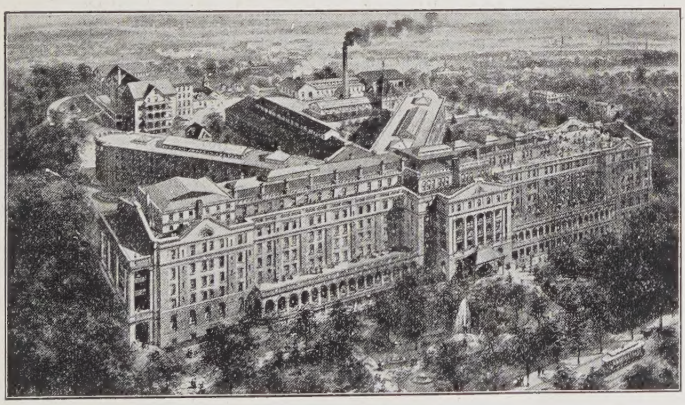

An examination of their illustrated booklet shows how different the Battle Creek Sanitarium is from other health resorts. Its cuisine, conducted according to the Calorie system is different. Its remarkable system of baths, including Nauheim is different. Its system of manual Swedish movements is different. Its school of health is unique and fascinating. Its care and treatment of guests, especially invalids, are peculiarly its own. Indeed, the whole vast institution, its atmosphere and environments are suffused with what has become known the world over as "The Battle Creek Idea."

Its main building, absolutely fire-proof, contains seven acres of ideal indoors. It has over 100 suites with private baths, telephone in every room, model kitchen and sunny dining rooms on top floor with 50-mile view, great palm garden, delightful sun parlors, elegant lobbies, parlors and rest foyers, wide porches and spacious home-like rooms. It employs the most elaborate and costly scientific equipment for phototherapy, electricity, X-ray electric light baths, Finsen rays, etc.

**The rates are moderate.** Board and room, including baths, services of bath attendants and necessary medical attention, cost less at the Battle Creek Sanitarium than board and room alone at many resort hotels not so elegantly appointed

Those desiring absolute quiet and rest can have it at any time. For those desiring them, there are marches, lectures, stereopticons, musicales, contests, exhibitions, walking, driving, tally-ho and picnic parties and other indoor and outdoor entertainments and amusements. Write for a copy of their catalogue.

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All through railroad tickets have stop-over privilege at Battle Creek.

## MEDICAL MEMORANDA.

**For Sale.**—First-class vibrator (electric). A great bargain. Address, "Retired" care Medical Fortnightly, St. Louis, Mo.

**I am** pleased to inform you that I used resinol ointment and soap with gratifying results in a severe case of eczema of the face. The trouble being totally cured in a remarkebly short time. I am glad to recommend these preparations.—Dr. Angel E. Rivera, Naguabo, Porto Rico.

**The Nursing Mother.**—The extra burden which a nursing mother has to bear, often places a greater tax on her strength and vitality than she can successfully meet. Rational treatment aims at an increase of her vital physiological functions, and a corresponding increase in her physical strength. No remedy has a more positive value for this purpose than Gray's glycerine tonic comp., and to many a physician it is the one tonic that meets every requirement in such conditions, as it is not only remarkably effective but has no contra-indications.

**At Atlantic City.**—The season at this famous resort, while somewhat delayed on account of disturbances along the newest comet's tail, and the consequent cool weather, is now at its height, and the beach and boardwalk are daily and nightly thronged with the fashionable people from the cities. No more charming or comfortable place can be found in which to spend the heated term of July and August. And speaking of hotels, Atlantic City has upwards of 800 of them, of all grades and varieties. One of the most popular of all the boardwalk hostelries is the "New Ostend," which is now under the management of Messrs. Cope and Rahter, two of the best hotel men on the coast. This house especially appeals to the taste of the quiet, refined element, who require faultless service and appointments, without the noise and bustle of the city. The New Ostend offers special inducements to physicians and their families, and to those who come on the advice of their family physician. See announcement in this issue.

**Powder Burn of Face.**—(By E. Kuder, M. D., Coffeyville, Kan.) About a year ago I was called in a hurry to relieve the awful suffering of Carl Rucker, of this city, 10 years old, who when playing with other boys exploded about two ounces of coarse black shooting powder in a little earth mount, and not being quick enough to turn away got the most of the discharge into his face ; even the conjunctivae of both eyes were blackened, and from the burn and subsequent inflammation shut tight ; one of the ears got burned very badly. To extract the powder from the skin I have in years gone by applied a thick layer of castile soap made into a sort of dough, and as I had to deal here with the inflammation and pain beside, I scraped a cake of shaving soap, mixed it thoroughly with antiphlogistine, and applied it about one half inch thick all over the face and ear, leaving a hole for the eyes, nostrils and mouth. About one half hour later the little patient, a very sensible child, rested very comfortable free from pain and slept a few hours soundly. About 24 hours later I removed the whole mask from the boys face and to my great delight and surprise the application had drawn out every kernel of the powder. The inflammation had been greatly reduced, pain was all gone and the face appeared almost natural again with the exception of the sclera of both eyes which I treated with a solution of cocain adrenalin. Another remarkable circumstance is the fact that the boy at the same time got entirely rid of his freckles, not a trace of the latter could be detected. For about a week the face got anointed with cold cream twice daily, and being well was discharged as cured.

**Iodide of Iron** is an extremely valuable medicament owing to the properties of its two constituents: iodine, which has a stimulating action on those blood elements whose role is to protect the system against micro organisms and noxious bacilli, and iron, which is a reconstituent of recognized value. As the action of iodide of iron absolutely depends on its purity the efforts of all manufacturing chemists are directed to this purpose. The ordinary, commercial iodide of iron pills all contain impure iodide of iron; besides they are frequently dangerous on account of the insolubility of their coating. The genuine Blancard's pills contain 5 centigrammes of strictly unchangeable iodide of iron. The physician need only split open one of the pills, either with his finger nail, or the blade of a knife, to see that the resulting section is of the greenish color which characterizes the unchanged protoiodide of iron. The genuine Blancard's pills are made entirely by hand, they are covered with a protective coating which dissolves in the gastric and intestinal juices; as it slowly dissolves in the digestive tube assimilation is complete without causing irritation to the mucous membrane with which it comes in contact. The greenish white color of Blancard's syrup of iodide of iron proves that it contains unchangeable iodide of iron (in the proportion of two grains to the tablespoonful) because the syrups in which chemical changes have taken place are always of a yellowish tint. Mr. Blancard's process received many years ago the endorsement of the Paris Academy of Medicine, and pills and syrup are still being manufactured in the same premises in Paris, by his grandsons, Mess. Bertaut-Blancard Brothers, who yearly ship many thousands of bottles all over the civilized world, where they are daily prescribed by the medical profession. Blancard's pills and syrup were awarded the gold medal at the St. Louis Exposition, 1904.